New Orleans Medical
and
Surgical Journal

Vol. 87 AUGUST, 1934 No. 2

THE ROENTGENOLOGICAL DIAGNOSIS OF BONE TUMORS*

LEON J. MENVILLE, M. D.
NEW ORLEANS

In recent years the roentgen ray has become a most important factor in the diagnosis of bone tumors and reliance is placed upon it to a very considerable extent in all of the large and important bone tumor clinics of the world. Medical and surgical authorities recognize the value of the roentgen ray in the diagnosis and treatment of bone tumors when used by competent roentgenologists. Dean Lewis (1) says that, "with the introduction of the roentgen ray, the diagnosis of bone tumors became much more definite and the differentiation of the types of growth became possible. The roentgen ray undoubtedly furnished more data than any other diagnostic method but should not be relied upon entirely to the exclusion of the other methods."

Contrary to the belief which prevails in certain quarters, the roentgenologist does not make a diagnosis of a bone tumor from the appearance of the shadow in the roentgenogram alone. While it is true that typical cases of bone tumor may be diagnosed with fair accuracy by comparison with films of cases proven by operation or necropsy, it must be remembered that the pathology of the same form of tumor in different patients may be so variable as to render such a method of examination at times inaccurate, and capable of leading to serious results.

In interpreting the shadows cast by bone tumors in roentgen ray films, the roentgenologist applies in a practical manner his knowledge of the embryology and histology of bone, which in many instances is indispensable for an accurate diagnosis.

The site of origin of most bone tumors has a definite relation to the embryology of bone, and the histogenesis of bone tumors can be traced from its early period of development to complete formation. It is likewise possible to trace in a manner the histogenesis of certain bone tumors in roentgen ray films, and also in microscopic slides of sections of the tumor. Such a survey is not alone fascinating, but is considered of importance from a diagnostic standpoint. By applying this knowledge in a practical manner to one of the most common bone tumors, osteochondroma or exostosis, we find that roentgen ray films of this tumor show a protuberance of bone arising from the cortex of a long bone in its metaphyseal region, extending away from the shaft, and ending in a cartilaginous cauliflower mass of decreased density. (See Fig. 1.) The roentgenogram of ostreochondroma represents, therefore, a tumor composed of bone and cartilage, showing a base, pedicle, and cartilaginous cap situated some distance from the cortex of the bone. The appearance and structure of this tumor on the roentgenogram is explained on the basis of histogenesis. According to Geschickter (2): "Osteochondromas occur at the site of a congenital defect in the periosteum, the defect arising at a point in the bone predestined for some important tendinous insertion, such as the quadriceps femoris, the adductor magnus, or the achilles tendon. At this juncture Nature provides for a normal protuberance of bone, which bulges through a normal gap in the periosteum to meet an adjoining tendon, which co-operate in the formation of the attachment by cartilaginous ossification within the substance of the tendon.

*Read before the Louisiana State Medical Society, Shreveport, April 10-12, 1934.

†From the Department of Radiology, Tulane University School of Medicine.

Fig. 1. Osteochondroma with a large cauliflower calcified cartilagenos cap. Representing bone and cartilage which is also shown in Fig. 2, showing the histogenesis of the bone tumor.

The exostosis or osteochondroma represents a failure accurately to approximate the juncture of these different tissues. As a result, the normal bone protrudes excessively through the widened periosteal gap, forming the base or pedicle of the exostosis, and the cartilaginous center of ossification in the tendon reduplicates in excess, forming a large cauliflower cap typical of the osteochondroma or exostosis. This mode of origin is not only traceable in the roentgenograms, but is also borne out microscopically. The significance of this histogenetic analysis for roentgen ray diagnosis lies in the fact that the bulging of the normal underlying bone through a periosteal gap forms a base or pedicle and always points to the existence of osteochondroma, regardless of the size of the cartilaginous cap and whether or not secondary changes therein have occurred." Fig. 2 represents a miscroscopic section of an osteochondroma, showing cartilage and bone which is also similarly shown on the roentgenogram. (Fig. 1). Geschickter (2) also points out that a comprehension of the mode or origin of a neoplasm often permits an analysis of the roentgenray film not otherwise possible. This has been demonstrated in the instance of the osteochondroma, and could be applied to other bone tumors in a similar manner.

A brief explanation of the embryology of bone is here given in order that we may better understand its relation to bone tumor formation, especially since it plays such an important part in the origin of these tumors. Geschickter gives us a clear and concise description of the embryology of bone and its relation to the histogenesis of bone tumors. "The primitive connective tissue condenses in the embryo at the site of the future skeleton and is endowed with the power to form cartilage and bone. This connective tissue transforms into small rounded fetal cartilage cells which give rise to adult cartilage, and the latter gradually calcifies. In conjunction with this calcified cartilage, persisting portions of the original connective tissue take on the power of direct bone formation and lay down cuffs of bone which is to form the future cortex. It is in delayed developmental steps in this primitive connective tissue of the skeleton and in conjunction with subsequent histogenic steps, after the cartilage of the skeleton has been formed, that practically all primary bone tumors take origin. From an embryoloic point of view, the neoplasms of bone may be divided into two large groups, those arising in persisting portions of preosseous and precartilaginous connective tissue. This original embryonic connective tissue, from which so many bone tumors arise, has the power of forming cartilage and bone. It is found about joints in the embryo, and strands of this primitive tissue remain after birth at the margins of bony articulations. They may also be found some distance from the joints when by their active growth of cartilage and bone, they form bony protuberances for the insertion of important tendons. It is at such points that osteochondromas arise as a result of a developmental

process of this tissue. In the small bones of the hands and feet or about the vertebrae and ribs where this early connective tissue is unusually active in joint formation, aberrant strands may give rise to benign chondroma. The following bone tumors arise from this precartilaginous connective tissue: Osteochondroma, chondroma, primary chondromyxosarcoma, secondary chondromyxosarcoma, and osteoblastic osteogenic sarcoma. Other neoplasms of bone are found arising in connection with the subsequent growth of cartilage. Two major types of growth in cartilage occur normally after birth. One of these is on the shaft side of the epiphyseal line, where the cartilage continues to proliferate as the bone increases in length. This proliferation of cartilage cells (known as chondroblasts) at the epiphyseal line may give rise to a certain form of osteogenic sarcoma. The other type of change in cartilage is regressive and occurs on either side of the epiphyseal line after birth. Here the calcified cartilage undergoes absorption by a proliferation of giant-cell osteoclasts which make way for the new blood vessels and marrow elements and which mobolize the calcium in the cartilage for the formation of the cancellous bone that follows. This process goes on to adulthood on the shaft side of the epiphyseal line and may give rise during youth to bone cyst or osteitis fibrosa. On the other side of the epiphyseal line in the epiphysis the resorption of calcified cartilage by giant cells occurs until late in life, and giant-cell tumors may arise with this process at any age. The following tumors are related to subsequent cartilaginous growth: chondroblastic sarcoma, osteolytic sarcoma, bone cyst, osteitis fibrosa, and giant-cell tumor."

"It is important to emphasize that the new growth observed in true bone tumors is never a single overproduction of cells of the same type, but involves, in addition, a step in cell differentiation which is not started or caused by the neoplastic process. Instead, as has been pointed out, the histogenic transition is a normal occurrence, and the tumor occurs after it has been initiated. For this reason only those localities and age periods at which such normal histogenic steps occur in the skeleton are capable of giving rise to true neoplasm. This gives a new importance to the skeletal and age distribution of each form of tumor, and these two entities together constitute a most important diagnostic aid. It also justifies a new approach to the clinical study of tumors of the bone, giving a new significance to the pathology of these lesions."

This is timely, as it is reported that the microscopic diagnosis of bone tumors sometimes offers greater difficulty of diagnosis than that of other neoplasms. The most probable explanation for this is that there is an apparent lack of appreciation of the relationship of normal bone development and tumor formation. It should be remembered that the development of the human skeleton continues during most of one's life, and during this time there is always a possibility for tumor formation. Also, that bone tumors are not dependent solely upon the number of different elements, such as connective tissue, cartilage and bone, but also upon the various steps of development of these structures from their embryonic form to the adult state. This histogenic process occupies a conspicious position in the diagnosis of bone tumors.

As a medical and surgical consultant, the roentgenologist is entitled to all information and data concerning a patient suspected of having a bone tumor—the age of the patient, sex, symptoms, duration of illness, urinalysis, blood chemistry, basal metabolic rate and the Wassermann reaction which should be made on all cases of bone tumors. Besides all of this valuable information the roentgenologist should of his own knowledge, know the frequency of occurrence of bone tumors, whether they are single or multiple, whether they metastasize to other bones, their histogenesis, location, site of origin, whether they are bone productive, or bone destructive in character, whether they are prone to pathological fracture, and also their morphology. With this information, it is not only possible to diagnose a bone tumor accurately but by means of the roentgen ray also to tell what particular type of growth it is. Geschickter (3) points out in this regard that a comprehension of the mode of origin of a neoplasm often permits an analysis of the roentgenray film not otherwise possible.

A well trained roentgenologist can often tell from roentgen ray films whether a bone tumor

Fig. 2. Showing the entire histogenesis of osteochondroma which can be traced in this picture. At the upper margin is the primitive connective tissue which is the mother substance of the tumor. This tissue is giving rise to a small amount of fetal cartilage, beneath which there is much typical normal adult cartilage calcifying in its deeper layers. Beneath this, there is a protrusion of normal adult bone enclosing a small amount of fatty marrow. (From Geschickter and Copeland.)

is malignant or benign, also to what group it belongs, and by a process of roenegenological analysis, establish its definite type, which is of great importance from a therapeutic standpoint. For example, if the roentgenological diagnosis is that of osteogenic sarcoma, he can also tell whether the tumor belongs to the osteolytic or the osteoplastic group, and further determine to what particular type of these two groups the tumor belongs. This roentgenological accomplishment has been the occasion for much discussion on the part of many physicians. It is difficult for them to understand how this is accomplished because they know that it is impossible to study the microscopic cellular makeup of bone tumors with the roentgen ray, and yet they have had direct evidence of the correctness of such diagnosis. The following brief explanation will serve as an example of the method employed by roentgenologists in distinguishing the different types of bone tumors belonging to the same group.

Let us assume that a diagnosis has been made with the roentgen ray of an osteogenic sarcoma, as in the example already cited, and we are desirous of knowing whether it belongs to the periosteal or the osteolytic group and also what particular type of tumor of these two groups it is. There are two types of periosteal osteogenic bone tumors, the osteoblastic and the chondrosarcoma, and there are also two types of osteolytic osteogenic sarcoma, the fibro-osseous and the chondroblastic tumor, all of which usually occur in young individuals between the ages of 10 and 20. The point of origin is often sufficient to distinguish between these two groups of osteogenic sarcoma. However, reliance should not be placed exclusively upon the point of origin of bone tumors to make a diagnosis, as in certain instances the progress of the tumor may be such as to obscure its point of origin. Certain other important data should be obtained before a diagnosis is undertaken, such as whether the bone tumor is primarily a bone-producer or bone-destroyer; whether it is prone to cause pathological fracture; its points of distribution, and its roentgenological appearance. In the instance of the osteolytic group of osteogenic sarcoma, the origin of these tumors is usually central, with a point of distribution which involves the shaft of the bone toward its middle, or in its metaphyseal region. Then again, it may border on the epiphyseal line. The tumors of this group are destructive in character, and sometimes prone to cause pathological fractures. This is especially true for one of the types. All of this can easily be discerned on roentgen ray films of such tumors and explains the manner in which a roentgen ray diagnosis of osteolytic osteogenic sarcoma is made. On the other hand, the periosteal group of sarcomas arises subperiosteally or truly periosteally or extra-skeletal. It may or may not produce sclerosis in the underlying cortex and marrow cavity, and most frequently involves the metaphyseal regions of the lower femur and the upper tibia about the knee. Roentgenograms show clearly the sclerosis produced by the tumor whose origin is subperiosteal, and also the translucency of the other tumors of this group. The location and distribution of periosteal osteogenic sarcoma in the long bones is clearly visualized on roentgenograms.

It can be seen, therefore, that ordinarily there should not be any difficulty in distinguishing between these two groups of osteogenic sarcomas with the roentgen ray. We can further differentiate between the types of osteogenic bone tumors of the same group by means of the roentgen ray; for instance, in the periosteal osteogenic sarcoma group, we have two types of bone tumors, the osteoblastic and the chondromyxosarcoma. The osteoblastic tumor is subperiosteal in origin, arising in and about the osteogenic layers of the periosteum, and for this reason new bone reaction is observed on roentgen ray films of this tumor. The distribution of this new bone in the cortex which extends into the medullary canal, can often be traced with the roentgen ray, while in the instance of the other types of tumor of the periosteal group, namely chondromyxosarcoma, its point of origin is truly periosteal or extraskeletal and little bone formation is observed except for some few bone striations, particularly if the tumor is in an advanced stage, when it may involve the cortex with destruction. In its early formative period, this tumor is visualized on roentgen ray films as a translucent mass, sometimes near the shaft of bone near the metaphyseal region and other times extra-cortically situated, with evidence of some periosteal reaction. The following case will serve as a substantial demonstration, explaining the manner in which a diagnosis of a particular type of osteogenic sarcoma is made when the histogenesis, distribution, and location of the tumor, the age period of the patient, and the history of the onset of the disease are taken under consideration:

Case 1. A lad about 16 years of age fell, on August 5, 1933, and injured his left leg just above the knee, causing considerable pain. Rubbing the leg with alcohol temporarily relieved his pain. Shortly after this accident, he sustained another injury to the leg while playing football. Shortly after the accident he complained of pain which progressively became worse. In October, or one month after his second injury, he consulted a physician who gave him some salve to rub on his injured leg. For two weeks, he used this salve, which relieved his pain to some extent. About three weeks later his condition became worse, the pain increasing, and a mass appeared at the site of injury. Roentgen ray examination was made by the attending physician and a diagnosis of acute osteomyelitis was obtained, which led to an operation. A section of bone was examined microscopically and a diagnosis of osteogenic sarcoma was made. This was about the middle of November. Thirteen days later he became a patient in one of our local hospitals, at which time he was first radiographed by the writer. The roentgen ray examination revealed a localized absence of bone in the metaphyseal region of the lower extremity of the femur, probably the result of his previous operation. Because this masked to some extent the present pathology we were at first hesitant in making a diagnosis. After a careful examination we observed a large mass of translucency adjacent to the cortex of the femur, with bone destruction, accompanied by some periosteal elevation. We concluded that this tumor probably originated from the periosteum and had extended into the soft tissue, and was invading the cortex and progressing beneath the periosteum. This eliminated the osteolytic osteogenic group of sarcomas, which have their origin centrally in the bone, leaving three likely possibilities, namely, periosteal osteogenic sarcoma (osteoblastic chondromyxosarcoma), and Ewing's sarcoma. We eliminated the osteoblastic osteogenic sarcoma, which is a sclerosing tumor, as in this case there was no evidence of any sclerosing of bone, leaving chondromyxosarcoma and Ewing's sarcoma. Because of the possible periosteal origin of the tumor and the absence of new bone formation as is often found in Ewing's sarcoma we concluded that we were dealing with a chondromyxosarcoma, which was confirmed by biopsy. The boy's temperature while in the hospital was 100.6 degrees, pulse 120, respiration 25. Blood examination showed a slight leukocytosis (12,750); the red cell count was 4,600,000; hemoglobin 45 per cent; neutrophils 80 per cent. All of these findings are at times found in chondromyxosarcoma. Disarticulation at the hip joint was performed. The patient died December 1, 1933. The case serves as a substantial example, showing the great danger which may result when inexperienced physicians and surgeons attempt to interpret roentgenograms, and that such an important interpretation as that of a bone tumor can best be done by an experienced roentgenologist.

REFERENCES

1. Geschickter, C. F. & Copeland, M. M.: Tumors of Bone, The American Journal of Cancer, New York City, 1931, 11.

2. Geschickter, C. F.: Radiology, February, 1931, XVI, 111.

3. Geschickter, C. F.: Radiology, February, 1931, XVI, 111.

UTERINE BLEEDING

B. C. GARRETT, M. D.
SHREVEPORT, LA.

By uterine bleeding is meant any irregular, prolonged or profuse bleeding from the uterus. It is one of the most common symptoms for which a patient will consult her physician, therefore, a brief resume of the conditions which will cause this hemorrhage, and their treatment, will I hope be acceptable.

In order to cover such a subject in the scope of this paper the conditions will be considered in order according to Cullen's modified classification. Cullen rightfully classifies uterine bleeding into two main groups:

(1) That bleeding dependent on recent pregnancy, and

(2) That independent of recent pregnancy.

No doubt the first question considered is whether the patient is or has recently been pregnant. If pregnancy can be ruled out, without hesitation the causes of bleeding in the first group can be dismissed, and the next group considered.

In the first group, namely:

(A) Uterine bleeding dependent on recent pregnancy one may list the following:

(1) Abortion and miscarriages.
(2) Ectopic gestation.
(3) Hydatidiform mole.
(4) Chorio-epitheloma.
(5) Placenta previa.
(6) Ablatio placenta or premature separation of the placenta.

In the second group, namely;

(B) Uterine bleeding independent of recent pregnancy we may list the following:

I. Benign Conditions.
1. Uterine fibroids.
2. Adenomyomata of uterus.
3. Polypi—cervical and corporal.
4. Malpositions of the uterus and lacerations of the cervix.
5. Subinvolution of the uterus and hyperplasia of the endometrium.
6. Pelvic inflammation.
7. Benign tumors of the ovaries.
8. Functional bleeding.

II. Malignant Conditions.
1. Carcinoma of the cervix uteri.
2. Carcinoma of the corpus uteri.
3. Sarcomata of the uterus.
4. Malignant tumors of the ovary.

Generally speaking, uterine bleeding can be classified under two heads, physiological and pathological.

PHYSIOLOGICAL UTERINE BLEEDING

Physiological uterine bleeding deals with menstruation. Normal menstruation, according to Sutton, may be defined as a "periodic discharge of blood from the uterus, accompanied by the shredding of portions of the epithelium of the body and fundus as well as that lining the utricular glands near their orifices." The menstrual discharge therefore contains blood mixed with the glandular secretions and the desquemated surface epithelium of the endometrium. Normal menstrual blood does not clot due to the presence of mucus from the glands of the cervix, and the proper proportion of thrombokinase and thrombolysin from the endometrium. Every woman has her own normal course, and this should be carefully studied to differentiate between the normal and the abnormal.

In this country the average age at which menstruation is established is the fourteenth year, although moderate variations from this are not considered abnormal. Menstruation occurs every twenty-eight days in the average woman, and lasts from three to five days. The period of sexual activity, which begins with puberty and ends with the menopause lasts from thirty to thirty-five years.

PATHOLOGICAL UTERINE BLEEDING

Pathological uterine bleeding occurs in the form of menorrhagia or metorrhagia and according to Cullen's classification these bleedings will be discussed.

1. Abortions and miscarriages. These may be threatened, imminent or inevitable. Again they may be complete or incomplete, infected or non-infected. In all cases uterine bleeding is usually the first symptom. In the complete variety the bleeding usually stops after the patient has gone through the lying-in period. Persistent bleeding after an abortion or a mis-

*Read before the Louisiana State Medical Society, Shreveport, April 10-12, 1934.

carriage generally means retained products which should be evacuated with as little trauma as possible. This should be done if the case is not infected, that is running a fever and showing other signs of sepsis. Gentleness should be the keynote in removing retained products from a soft friable pregnant uterus. In the infected cases a "hands off" policy should be adopted neither packing nor curretting the case as such procedures would only disseminate the infection. Here we resort to supportive therapy. Fluids, stimulation, pituitrin, ergot, etc. The incomplete abortion accounts for the largest per cent of uterine bleeding associated with pregnancy and should be ruled out in every case at first sight.

2. Ectopic gestation. This condition gives a similar history of one or more massed periods, often irregular or bleeding between menstruations, but in addition we find a mass in one side or the other of the pelvis with more pain on that side than the other. The cervix is soft and the uterus may be pulled to one side and is slightly enlarged. The treatment of ectopic gestation is the removal of the organ of the affected side together with the products of pregnancy as soon as the diagnosis is made as this truly is an emergency for rupture would probably mean death in many cases.

3. Hydatidiform Mole. This is a cystic degeneration of the chorionic villi and a less frequent cause of bleeding. The treatment is debatable. Due to the possibility of malignancy some authors are of the opinion that hysterectomy is the procedure of choice while others think simple cleansing of the uterus will a dull currette followed by radium not only stops the condition but conserves function. Great care should be taken in curretting these uteri as due to the invasion of these cystic villi into the maternal tissues the muscle is very thin and friable. For this reason and the fact that there is a danger of malignancy the author is of the opinion that hysterectomy is the procedure of choice.

4. Chorio=epithelioma. This is a malignant condition generally following labor, abortion, tubal pregnancy, and in about 50 per cent of cases hydatidiform mole. The lesion is usually found within the uterine cavity rarely in the tubes or vagina. The characteristics of the tumor are profuse hemorrhage, unusual malignancy (it is said to be the most malignant tumor) and rapid and widespread metastasis especially to the lungs. This condition should always be suspected when uterine bleeding returns after expulsion of a mole. In my opinion, the only treatment is total hysterectomy.

5. Placenta previa. Uterine hemorrhage without pain, in the last trimester of pregnancy is usually due to one of the varieties of placenta previa, the bleeding usually varying with the type found, sudden and excessive hemorrhages occurring from the central inmplantation. The treatment is obstetrical unless the implantation is central when caeserian section is indicated.

6. Ablatio placentae. Uterine bleeding with the pain in the last trimester of pregnancy is usually due to premature detachment of the normally implanted placenta. The hemorrhage varies with the amount of the separation present. If the hemorrhage is largely behind the placenta the blood dissects the uterine muscle fibers apart producing another characteristic of this condition, a hard or ligneous consistency of the uterus on bimanual examination. The treatment is obstetrical in the mild cases and caeserian section with the conservation or ablation of the uterus in severe cases.

HEMORRHAGE INDEPENDNT OF RECENT PREGNANCY

I. Benign Causes.

1. Uterine fibroid. Fibroids are probably the cause of hemorrhage from the uterus in the largest number of cases in this group. The bleeding varies with the size and position of the tumors, the severest hemorrhage accompanying the sub-mucous variety, while there may be but little bleeding from the sub-serous form, especially if pedunculated. The treatment of fibriods again depends upon the size and location of the growth and the age of the patient. In the young woman myomectomy is advisable whenever it can be practiced. When this is not possible, a partial or sub-total hysterectomy is the last resort. Radium should not be used during the child-bearing age, i.e. up to at least thirty-eight to forty years, in the opinion of C. Jeff Miller. As far as radium is concerned, it finds its largest field of usefulness with the intramural tumors smaller than a three months

pregnancy in women past forty without infection, anemia or suffering severe pain. There is too much danger of necrosis with the submucous and pedunculated sub-serous types. However, radium is of great value in arresting the hemorrhage in the exsanguinated woman; its application in that type of case should be preceeded by a blood transfusion. Here it may not be used with the idea of effecting a cure, but merely to stop the bleeding, allow the patient to gain strength and permit the performance of a hysterectomy at a later date. In the good surgical risk at or after the menopause, hysterectomy, sub-total in the presence of a normal cervix, or total when the opposite obtains, is considered by the majority as probably the best form of treatment.

2. Adenomyomata of the Uterus. Adenomyomatas are tumors containing adenoid structure connective tissue and smooth muscle fibers. These tumors are rare and may develope in the uterine body, the round ligaments, fallopian tubes, rectovaginal space, the alimentary canal, and the umbilicus. It is now generally agreed that the adenoid glandular structure arises from the endometrium. The only treatment is hysterectomy as myomectomy is contra-indicated due to the glandular elements present.

3. Polypi, Cervical and Corporal. These tumors may be single or multiple and produce bleeding due to their vascularity. The bleeding may be increased at the period or intermentrual bleeding may be seen. The treatment is surgical removal or cauterization. Amputation of the cervix may be necessary. Small doses of radium after removal has proved of value in many cases. Hysterectomy has to be resorted to in a small number of cases.

4. Malpositions of the Uterus and Lacerations of the Cervix. Malpositions of the uterus, associated or not with prolapse, together with lacerations of the cervix and consequent erosion, ectropion and endocervicitis result in not a small number of cases of uterine bleeding. Proper obstetrics will tend in a large measure to decrease the number of patients who fall in this grouping. Malpositions produce bleeding due to uterine congestion resulting from the malposition. The treatment is some form of suspension. The Simpson, the external Alexander, the Olshausen technics all being good together with some form of perineorrhaphy and trachelorrhaphy.

5. Subinvolution of the Uterus and Hyperplasia of the Endometrium. These conditions produce a menorrhagia resulting from the uterine engorgement. Here the uterus has failed to return to its pregravid state after partuition, is large and soft. Fibrosis may take place and a so-called "fibrous uteri" result. Like the body, the endometrium is hypertrophied and has a tendency to polypi formation.

The treatment is far from easy. During the child-bearing age it is said that a cure for subinvolution may be obtained by a subsequent pregnancy followed by a normal puerperium. The less severe cases can be treated by the use of a drug such as pituitary extract, ergot and calcium lactate. Currettage followed by the use of these drugs is frequently successful. The use of the pessary also has met with success. Radium therapy is also useful in many cases. Doses of 1200 to 1500 mg. hrs. has controlled the bleeding in Phanuefs cases. Eventually many of those have hysterectomy.

6. Pelvic Inflammation. In the colored race undoubtedly the most frequent cause of menorrhagia is acute inflammation of the fallopian tubes being more pronounced when the ovaries are involved. Here the bleeding subsides usually with the inflammation and the treatment is of the disease itself. Many of these clear up under medical treatment; others come to surgery.

7. Benign Tumors of the Ovaries. The most frequently encountered is clear cyst of the ovary, and in many cases hemorrhagic. Witherspoon in a recent paper has demonstrated that this uterine bleeding is not only the result of a continued follicular stimulation of the endometrium maintaining it in a stage of hypersecretion but also the myometrium is stimulated thus producing a tendency to fibroid formation. Not infrequently the surgeon is struck by the large number of unruptured hemorrhagic cysts on the ovary when removing fibroids. The treatment of these conditions is surgery.

8. Functional Bleeding. Functional or nonpathological uterine bleeding occurs most frequently at the two extremes of sexual activity,

that is at puberty when menstruation is initiated and at the menopause when the process ends. Here no pelvic pathology or constitutional disease can be found to explain the bleeding, so the condition is labeled an endocrine distrubance, but now we know that there is a power above the ovary, the anterior pituitary gland, which at present is known to produce five harmones, and recently Best and others have claimed there are as many as twelve present, but we still have another group of investigators which believes this great number of harmones have not been properly isolated as there are only three kinds of glandular tissue in the anterior pituitary. Two of these act directly on the ovary, one designated as Prolan A has to do with the ripening of the follicle which leads to ovulation and the other, Prolan B, stimulates the formation of corpus luteum and so is ressponsible for the luteinizing or secretory factor in the menstrual cycle. In view of these facts, it can no longer be doubted that ovarian dysfunction has its primary origin in pituitary dysfunction, and for that reason the rational treatment of mensrual abnormalities must concern itself with the anterior lobe of the pituitary gland rather than with the ovary. Organotherapy in the past has been empiric and irrational, but now that the exact relationship of the pituitary and ovarian glands has been established it is reasonable to suppose that a rational system of therapy may be evolved. No doubt all of us have given barrels of these ovarian residues, extracts, etc., with little or no results. An extract prepared from the urine of pregnant women and put out by Parke Davis & Company known as Antuitrin S contains both Prolan A and B with the latter dominating so that the luteinizing factor is in abeyance. With this Novak, Hurd, Zondek and others have been treating functional bleeding after a preliminary currettage with good results. Some recent investigators (work not yet published), have been making a hormone from women past menopause and claim some results in the treatment of these younger women who are bleeding.

In all of our clinic cases a basal metabolic rate determination is done, as not infrequently a hypothyroid is found. Recently we had a case that was found to be hypothyroid. She reacted well to thyroid therapy and Antuitrin S, after the currettage. Meigs is of the opinion that bleeding due to hypothyroidism is an attempt on the part of the ovary to hypersecrete to compensate for the hypo-functioning thyroid and in turn menorrhagia results. There is still much to learn about these endocrine disturbances and what is true today may be proven wrong tomorrow. The future, though, in this type of therapy is bright. These cases should be individualized and if anemic treated for anemia with iron and proper diet, the blood calcium should be stabilized, but it is true if all these measures have been tried without results we still have to report to radium, roentgen-ray or surgery. Just which of these should be used on the individual case, of course, would require mature judgment.

II. Malignant Conditions.

1. Carcinoma of the Cervix Uteri. Unfortunately this is a very common lesion. There always exists some bleeding irregularly after trauma, especially douches, vaginal examinations, coitus, etc. The bleeding is characteristically slight, irregular in character and accompanied by a watery discharge. A diagnostic currettage with biopsy is the procedure of choice in all cases. Radium is now considered the treatment "par excellence" in these cases. Miller recommends giving at the first seance a dosage of approximately 2700 mg. hrs. of the radium element, the application lasting over twenty-four hours; fifty mgs. is applied into the cavity in a capsule and 75 mgs. is inserted about the periphery of the growth in needles. After a rest of forty-eight hours a second application is made of approximately 1200 mg. hrs., fifty mgs. of the radium element being applied into the crater of the growth for twenty-four hours. The total dosage in this short period of time is from three thousand to four thousand mg. hrs. The application is repeated only as indications arise and under no circumstances is it repeated in less than two months. Authors vary in the dosage but the concensus of opinion is that large doses from the start, striking the tumor hard and only applying radium later as indications arise is the best procedure. It is yet considered good judgment by a great many men to treat these cases with radium and follow up by total hysterectomy.

The treatment "par excellence" of carcinoma

of the cervix is prophylaxis, that is, the repair of obstetrical injuries and the treatment of cervical disease. Innocent lacerations may become the seat of this dreaded disease. In a large series of cases one author stated that repair of the cervix was almost one hundred per cent prophylactic; on the other hand almost one hundred per cent of the cases of carcinoma of the cervix had borne children and received a lacerated cervix. As surgeons we cannot recommend too strongly the repair of these post-partal lacerations.

2. Carcinoma of the Corpus Uteri. Bleeding and blood stained discharge after the menopause always suggests malignant disease. Cancer of the cervix is much more frequent than cancer of the fundus before the menopause but after that they are about equal incidence.

Cancer of the uterine body originates in the glands or epithelium of the endometrium, is usually not rapid in development, and remains local for a much longer period of time; except in its advanced stages it can only be diagnosed by an exploratory currettage. The largest per cent of cases are operable when first seen and here in contra-distinction with carcinoma of the cervix a panhysterectomy is the treatment of choice and is followed by very good results. When carcinoma of the body has become inoperable due to it having eroded through the muscle and involved the omentum and intestines only palliative treatment is to be used. Radium or roentgenray have no place.

3. Sarcomata of the Uterus. These cause bleeding as fibroids do. Clinically it may be impossible to differentiate a sarcoma from a myoma. It is a fact that in about one per cent of cases a myoma becomes a sarcoma. Sarcomata usually occur later in life than myomata, and in women who have passed the menopause a uterine tumor which grows rapidly should make one suspect sarcoma, as the myoma, unless pregnancy occurs, never grows rapidly. The treatment is panhysterectomy.

4. Malignant tumors of the Ovaries. These cause bleeding due to disturbances of the ovarian secretion. The treatment is surgical removal using much care in the removal of the cystic condition.

Constitutional bleeding, such as blood dyscryasias and hypertension, cause bleeding but are of medical significance and are not discussed.

Although this paper does not lend itself to a summary, one conclusion may be drawn and that is uterine bleeding is only a symptom and only by a complete history, a thorough physical examination and observation of the patient can the etiology be unraveled and rational treatment instituted.

BIBLIOGRAPHY

Abell, Irvin: The problem of the bleeding uterus. Kentucky M. J., Dec., 1924.

Bowing, H. H.: Menorrhagia and metorrhagia due to certain benign diseases of the uterus, and their treatment by irradiation. Radiol. 7:234, 1926.

Carter, L. J.: A further report on the roentgenray treatment of menorrhagia of the menopause and uterine fibroids; analysis of one hundred consecutive cases. Radiol., 16:44, 1931.

Clark, J. G. & Keene, F. E.: Uterine hemorrhage of benign origin treated by irradition. J. Am. M. Assn., 79:546, 1922.

Cullen, T. S.: Uterine hemorrhage and its treatment. Canad. M. Assn. J., 19:411, 1928.

Fulhumann, C. F.: The endometrium in so-called idiopathis uterine hemorrhage. J. Am. M. Assn., 93:1136, 1929.

Keene, F. E. & Payne, F. L.: The results of radium treatment in functional uterine bleeding. Surg. Gynec. Obst., 56:322, 1933.

Kennedy, W. H.: The present status of radium in the treatment of uterine hemorrhage. Indiana State Med. Assn., November 15, 1931.

Miller, C. J.: Clinical gynecology. C. V. Mosby Co., St. Louis, 1932

Novak, E: The interpretation and clinical significance of uterine hemorrhage. Med. Rec., July 10, 1920.

Ochsner, E. H.: Surgery versus radiation in benign uterine hemorrhage. Illinois M. J., 61:316, 1932.

Phaneuf, L. E.: The causes and treatment of uterine bleeding. Am. J. Surg., 4:405, 1928.

Polak, J. O.: Fifteen years with radium in the treatment of fibroids, non-malignant bleeding and dysmenorrhea. Am. J. Surg., 6:648, 1929.

Spigler, O. R.: Uterine bleeding; etiology and treatment. J. Indiana State Med. Assn., 25:64, 1932.

Spivak, M.: The histopathology of the uterus in relation to the so-called essential or idiopathic uterine bleeding. Surg. Gynec. & Obst., 54:733, 1932.

Williams, J. W.: Obstetrics. D. Appleton & Co., New York, 1930.

Witherspoon, J. T.: The interrelationship between ovarian follicle cyst, hyperplasia of the endometrium, and fibro-myomatum, a possible etiology of uterine fibroids. Surg. Gynec. & Obst., June, 1933, 1026.

DISCUSSION

Dr. Lucien A. LeDoux (New Orleans): In this paper Dr. Garrett has certainly done a fine piece

of work in so completely reviewing this subject in the short time allotted to him. I wish to comment on two points; first, that in the so-called incomplete abortion of four to six weeks, the continued uterine hemorrhage is more often due to uterine atony than to retained secundines. In these early pregnancies the embryo is difficult of expulsion and the uterine muscle fatigue incident to this difficult expulsion and the intramural extravasation of blood combine to produce a condition of uterine relaxation and consequent bleeding. You have noted that in these cases, frequently, after a sponge forcep clean out, we do not obtain any retained tissue, but the bleeding ceases following this procedure. This is the result of the uterine stimulation which follows instrumentation, with subsequent contraction, and reducion in the amount of bleeding.

As reference was made to the use of the curet in the treatment of excessive functional bleeding in young girls, I wish to state that in my experience I have found curetment to be of little or no value in this type of case. At best one may obtain relief for two or three months and then the excessive bleeding recurs and we are brought to realize that we have done a useless operation.

Dr. Adolph Jacobs (New Orleans): Regarding abortions the only indication for immediate interference are brisk hemorrhage or prolonged small hemorrhages. The latter should always be treated first with blood transfusions preliminary to emptying of the uterus. Under no circumstances should sharp curettes be used.

Frequently one overlooks a plug either of remnants of products of pregnancy or an organized clot, blocking the cervical canal which when removed with a sponge holder allows drainage to be established, and the temperature drops. It is a good thing to give 1 cc. of pituitrin about fifteen minutes prior to a curettage. The contraction of the uterine muscle will minimize the danger of opening avenues of infection.

The sedimentation time of the red blood cells is a very valuable indicator as to when to perform a curettage, however, one must discount the secondary anemia which will cause a more rapid sedimentation in spite of a normal leukocytic count and an afebrile patient.

Another cause of uterine bleeding not infrequently overlooked is lues. I had to deal with patients who in spite of vigorous anti-leutic treatment and repeated blood transfusions, uterine hemorrhage occurred and hysterectomy was the only recourse to prevent loss of life.

THE CHRONICALLY DISEASED CERVIX AS A FOCUS OF SYSTEMIC INFECTION*

PETER GRAFFAGNINO, M. D.
NEW ORLEANS

In recent years, gynecologists as a whole have awakened to a new conception of the importance of cervical infection, both because of its possible role in the disturbance of the function of the pelvic organs and also by reason of its significance as a source of systemic infection, which in respect to the frequency of occurrence of important systemic consequences, ranks next only to the teeth and tonsils. The mention of chronic cervicitis is limited largely to gynecological literature; and in clinical practice this condition receives notices almost only from the gynecologist. Yet it is a subject of tremendous importance in general medicine and surgery.

The cervical lesion has long been recognized, and we know that from early times one of the most common therapeutic measures consisted of the local application of caustic drugs to "erosions" of the cervix. The old textbooks bear witness to the frequency of this practice. At the same time, the older attitude did not extend much beyond one which regarded the lesions as a sort of simple ulceration from which unpleasant discharges continually drained away.

It has remained for this generation to grasp more fully the wider clinical significance of the condition, and the object of this paper is to demonstrate that in many cases it is responsible for pelvic and abdominal distress, and that it may play, in addition, a profound part in the production of general ill health.

Benedict, von Lackum, and Nickel have testified to the close relationship between pelvic infection, including that of the cervix uteri, and inflammation of the eye. They emphasize the interesting fact that "infections which become active, produce local abscesses and wide destruction of tissue rarely cause metastatic diseases of the eye. On the contrary, a focus of infection that shows little or no external evidence of disease not infrequently harbors organisms that give rise to serious diseases of the

*Read before the Louisiana State Medical Society, Shreveport, April 10-12, 1934.

eye." It is this statement pertaining to the importance of apparently minor foci which is of special interest.

That there are bacterial emboli in the ocular tissues has been shown repeatedly by bacteriologic and histologic methods. "In no field, perhaps, is there more convincing clinical evidence of the casual relationship of focal infection to disease in remote parts of the body than that of diseases of the eye. In the light of the newer knowledge, foci of infection wherever found, should be looked on as a place where favorable conditions are afforded for entrance into the blood or lymph streams of bacteria and their toxic products, and where they may acquire or maintain peculiar or relatively high invasive power. They make for a forced relationship between parasite and host."

Moench studied the cervical flora in 82 miscellaneous cases of leukorrhea, and noted that purulent or seropurulent discharge was characterized by many streptococci, both aerobic and anaerobic. The mucoid leukorrhea, on the other hand, was productive of relatively few streptococci, but contained a higher percentage of gram-positive bacilli, colon bacilli, and other members of the vaginal, vulvar, and intestinal flora.

In many cases of infection of the cervix, patients complain chiefly of nervousness, fatigue, stomach trouble, constipation, headache, neuritis, and heart trouble. There is strong evidence that the following conditions are attributable to this focus:

Nephritis, chiefly of the focal glomerular type;

The hypometabolic condition, not as yet scientifically named but well recognized, characterized by hypothermia, leukopenia, underweight, subnormal basal metabolic rate, and lowered resistance to disease;

Carditis;

Endocarditis;

Choroiditis;

Neuritis, especially sacrosciatic neuritis;

Septicemia;

Sapremia;

Peptic ulcer;

Cystitis;

Pyelitis;

Irido-cyclitis.

The above mentioned systemic conditions or diseases of distant parts of the body, do not naturally come to the attention of the man specializing in gynecology. They get into the hands of the general practitioner, the general surgeon, or the internist. Unless these men have in mind fully the responsibility of the cervix as an etiological factor in the above conditions, this focus is overlooked in many cases. On the other hand, leukorrhea and the symptoms produced in the pelvis and lower abdomen by chronic cervicitis either reflexly or through pelvic congestion, frequently come directly to the gynecologist, and the etiology is quickly found.

The surgeon or internist, searching for the etiology of such conditions as are generally known to arise from chronic focal infection, must be fully conscious of the role played by the cervix in these cases. He must think of the cervix as a possibility as quickly as he thinks of the teeth, tonsils, sinuses, middle ear, etc., and he must give to this possibility the same amount of painstaking care and study.

The severity of the constitutional symptoms which result from cervicitis depends clinically both upon the virulence of the invading organism and upon the degree of immunity developed by the individual. Thus, even in cases in which the cervix seems only slightly infected, either a partcularly virulent organism or an unusually low degree of immunity on the part of the patient may be the causative factor in the production of extensive constitutional symptoms.

It is difficult to estimate the percentage of women who suffer from chronic inflammatory disease of the cervix. Fulkerson checked the records of 6483 women who were examined in the Cornell Gynecological Clinic and found a diagnosis of cervicitis and endocervicitis in 33.16 per cent. Of the 1039 who were treated, 28 were between the ages of 10 and 20; 405 were between 20 and 30; 406 were between 30 and 40; 139 between 40 and 50; 32 between 50 and 60; and 9 between 60 and 70. It is of interest to note that 92.3 per cent were married; therefore it is reasonable to say that chronic cervicitis is a relatively common condition, being seen more often in women who have had one or more pregnancies, although it is not infrequent in nulliparous women and may be found even in young virgins.

Cervical conization with the electrosurgical unit as advocated by Hyams in 1928 and later by Roblee in 1931 is the method that we have adopted for the eradication of foci of infection in the cervix. Conization with the electrosurgical unit affords a simple and satisfactory method of dealing with simple cervical erosions, chronic cystic cervicitis and other chronic lesions of the cervix. Cervical conization in the hands of experienced operators is destined to replace practically all of the methods of treating these conditions now being used. Conization accomplishes complete extirpation of the endocervical mucosa with its underlying glands and the tissues in which they are embedded, just as in the Sturmdorf operation, without impairment of the integrity of adjacent tissues, and thus removing in one treatment all the foci of infection. It is a simple ambulatory procedure that causes little if any pain, practically no trouble from hemorrhage, requires no special nursing care, and therefore the patient need not be hospitalized. The technic is simple and easily acquired. Cervical stenosis and other anatomic distortions do not follow its use, and there is no interference, therefore, with future function.

The apparatus is supplied in two types, the radio-tube (with which we have had no personal experience) and the spark-gap. In both types there is a cutting (undamped) current and a coagulating and dessicating (damped) current. Electrodes are of various shapes and sizes. Our technic, which is almost precisely the technic originally described by Hyams, needs no detailed discussion, though it should be stated that in cases of eversion complicating chronic infection we have used the triangular rather than the spindle-shaped electrode which he advises, in order to eliminate the recutting necessary if his method is followed exactly. It should be emphasized, too, that the contact of the electrode with any metal instrument, such as a speculum or tenaculum, will damage it or break it, and if unceasing care is not exercised in this particular, the resulting expense is likely to be considerable.

Since August, 1932, we have employed this method in over 400 cases of cervical infection.

The amount of conization to be done can be determined only by the experience gained by a careful study of all the patients at definite and regular intervals (we prefer 5, 10, and 20 weeks) after the operation. The amount of tissue to be removed, depends naturally, not only upon the extent of the disease but also upon the age and social state of the patient. The majority of these women were still in the childbearing years, most of them between 20 and 35, with extreme limits of 17 and 46 years. In the young women we were as conservative as possible. In women approaching the menopause, in whom marked cervical hypertrophy and cystic formation suggested a long-standing and deep infection we used the large, triangular electrode and removed not only the endo-cervix but some part of the musculature also. If eversion is more marked on the anterior lip, excessive excision or overcutting seems to be safe; on the posterior lip where, fortunately, the eversion is rarely as extensive, this method is less desirable.

Overcoagulation to check oozing seems simple and safe, but actually, as we learned from an unfortunate early experience, it is not. We used this plan deliberately in one case in which there was an excessive and annoying ooze and believed, since there was no gross destruction of tissue evident, that we had done no harm. Subsequent examination, however, showed an almost complete absence of the posterior cervical lip and a knuckling into the canal of the anterior lip, whose size had been reduced. The patient seems to have suffered no ill effects from the accident, but we now check oozing by the insertion of a small iodoform pack.

In the colored patients, who furnished some 40 per cent of the series, healing was complete within 5 weeks in all cases, but in the white patients the process occupied 6 weeks. Why there should be this difference we cannot say. Colored patients of the class handled in Charity Hospital are notoriously unhygienic, and it would seem that any delay in the healing process would occur in them rather than in the white patients.

The anatomic results in all the cases of chronic cervicitis, with or without complications, were most gratifying. Examination at routine intervals after the operation almost invariably showed a complete absence of the pathologic changes caused by the infection, while in

some cases it was hard to believe that one was not inspecting a virgin cervix. In no case was there any evidence of stenosis. Leukorrhea, that invariable accompaniment of infection, was relieved in fully 95 per cent of the cases.

SUMMARY

1. The infected cervix has been found to be a frequent source of systemic infection, ranking in importance of occurence and consequences next only to the teeth and tonsils.

2. The men not specializing in gynecology should bear in mind the responsibility of the cervix as an etiological factor in many general conditions and not overlook this foci of infection in searching for the etiology of such conditions.

3. The outward appearance of the cervix is an unreliable indication of its probable systemic consequences. Extensive constitutional symptoms may depend on a particularly virulent organism or an unusually low degree of immunity on the part of the patient.

4. The most satisfactory method of dealing with cervicitis is conization with the electro-surgical unit. It is a simple ambulatory procedure, accomplishing complete extirpation of the endocervical mucosa with its under-lying glands. Since August, 1932, this method has been employed in more than 400 cases with very remarkable results. It accomplished relief of symptoms, with anatomic restoration of the parts as well as preservation of function, in approximately 95 per cent of the cases.

DISCUSSION

Dr. O. C. Rigby (Shreveport): I am sure we all thank Dr. Peter Graffagnino, for the presentation of this paper. We have all seen "Systemic Infection," caused by a diseased cervix and this should always be held in mind when examining patients with a view of determining their focus of infection. While I have operated upon a good many for diseases of the cervix, I have not used the electric conization, except for cases of cancer, where radium or X-ray is being used. I see no reason why this should not be a well standardized treatment, if we can prevent a stricture of the cervix. We have all seen strictures of the cervix caused by the "spoke wheel" cauterization and I wish to sound a note of warning to those who are using the cautery upon the cervix.

I again wish to thank Dr. Graffagnino for bringing this valuable subject to our at'ention.

Dr. Geo. A. Mayer (New Orleans): During the childbearing period simple linear cauterization is best. With conization the gland bearing tissue is removed. The compound racemose glands found here secrete the cervical mucus which is so important in the protection of the uterus. This is ever so important when pregnant. The procedure of conization is indeed simple, as simple as linear cauterization.

We see at times complete closure from the latter. Will we see it in the former, when handled by the occasional operator? It is Dr. Graffagnino's point to use this very valuable and simple procedure in those who for some reason are unable to bear children, i.e., previous operation, Neisserian infection, previous radium, etc. The conditon must be chronic as there is danger in treatment of an acute or subacute condition. The cervix is a source of infection particularly in the third and fourth decades of life and the method he outlined is ideal.

Dr. Adolph Jacobs (New Orleans): I want to emphasize the value of conizing or in the absence of proper equipment, of cauterizing the cervix preparatory to a supra-vaginal hysterectomy. The possibility of disastrous complications following a supra=vaginal hysterectomy without the above mentioned precaution must not be lost sight of. Even when one plans a total hysterectomy this procedure should be carried out.

I want to point this out particularly for the benefit of the younger and the less experienced in whose hands a total hysterectomy might not prove as safe.

My preference is for a total hysterectomy unless the patient's condition is such that a supra=vaginal hysterectomy would be the safer procedure.

NEPHROPEXY AND ITS INDICATIONS*

J. R. STAMPER, M. D.
SHREVEPORT, LA.

My subject today is nephropexy and its indications. When we say nephropexy we have in mind a procedure for relief of kidney ptosis. Therefore, to clarify the subject it will be necessary to discuss the etiology, symptomatology and complications of ptosis, as it is usually the complication or some co-existing defect that causes the patent to seek relief.

Nephropexy is an old subject. It has been practiced in various surgical epochs; surgeons were capable of doing a pexy at that time. However, nephropexy fell into disuse, and there must be a reason for its downfall. That rea-

---

***Read before the Louisiana State Medical Society, Shreveport, April 10-12, 1934.**

son is either due to the fact that the pexy was not done properly and did not hold, or there was some complication to the ptosis that was not diagnosed before operation. Kidney pexy did not fall into disuse because it was complicated, difficult or dangerous, but because too many were performed that did not relieve the symptoms which caused the patient to submit to the operation.

There are many surgical procedures that have been repeated over and over until the technic has become a surgical law. Appendicitis; the knowledge of its pathology and complication is now so thorough that the procedure for its relief is a standardized operation. There are many other ailments that are relieved by standard operation. On the other hand, there are some ailments that are not relieved by such standard and fixed procedures. For instance, propstatic surgery is now in a very restless stage; it has drifted from method to method, including perineal, suprapubic, punch, trans-urethral resection, etc. It is my opinion that it is now making a high dive back to sound surgical principles. Likewise, surgery for kidney ptosis must develop to a sound surgical basis because there is a great demand for a procedure that will relieve an ailment which is as common as ptosis in the female. Yet when we say nephropexy, even to the laity, they respond with the assertion that it is a big operation and does not often give relief.

I believe that some day nephropexy will be a well-recognized, valuable and frequently performed operation. It would be well to pause for a moment and think over the old dictum:—Well draining kidneys rarely become diseased, except degenerative changes from systemic causes.

Back in the days when pexies were practiced most, we had inadequate methods for a fine urological diagnosis. Many of the operations were done primarily as an exploratory—and as you know, kidney exploratories reveal only gross lesions and fine co-existing defects are not revealed by palpation or inspection; or they at least stand a chance of being overlooked if not diagnosed before operation. Now that we have the cystoscopic examination, retrograde pyelography, as well as intravenous urography, blood chemistry and kidney function test, it is possible for us to arrive at a rather definite conclusion as to surgical possibilities of the kidney.

ETIOLOGY OF KIDNEY PTOSIS

It is generally said that an individual becomes thin and loses the fatty padding that supports the kidney, then it begins to drop downward; this is not well founded. In doing kidney surgery, you will note that some individuals have very little bonding between the true and fatty capsule, while others have a firm bonding of fibrous tissue interlacing the two capsules. To my mind, this fibrous tissue bonding determines whether or not the kdney will be fixed or movable. Granting this as true, we will say that an individual has slight fibrous tissue bonding for kidney support and his occupation and habits are such that he is subjected to great physical strain, then his chance of kidney ptosis is much greater than if he were not subjected to physical or mechanical blows. Once the true kidney capsule begins to slide inside the fatty capsule and physical strain continues to be applied, the fatty capsule continues to get longer and longer until it finally becomes a slotted tract for the kidney to play up and down in. Of course it is possible for a well bonded kidney to be pushed from its normal bed by enlargement of a neighboring organ; also, trauma might displace a kidney by rupturing its support.

SYMPTOMATOLOGY

I am going to divide the symptomatology into two groups. First, that of a simple kidney ptosis; second, that of kidney ptosis plus the various complications, which I will mention later. Or maybe it would be more proper to call them co-existing defects. Anyway it is usually these co-existing defects, aggravated by the oncoming ptosis that causes the patient to seek relief.

The symptoms of simple ptosis may differ greatly in different individuals. One individual may be conscious of a movable mass in the abdomen and have no other symptoms, while another may present no symptoms referable to the kidney and yet have the reflex symptoms such as indigestion, constipation, malnutrition, nausea, urinary frequency and bladder discomfort. He may or may not have backache; however, it is more common to have backache. Vas-

omotor disturbances, such as cold feet and hands, clammy skin and reflex sweats, or it may present the picture that is usually spoken of as neurasthenia.

There are certain co-existing defects of the kidney and ureter that present symptoms localized in the region of the kidney and ureter. These defects may or may not produce symptoms with or without kidney ptosis. If we have the oncoming ptosis which is progressive, we will have aggravated symptoms from the original defect. Therefore, it is very important to have a thorough knowledge of the ptosis plus the co-existing defects, in order that all might be corrected in one operation.

The first and most important defect that might accompany ptosis, and at the same time be aggravated by ptosis is the aberrant blood vessel, clinging around the uretero-pelvic junction. Fibrous bands around the upper part of the ureter, angulation of the ureter, rotation of the kidney, hydronephrosis, double kidney pelvis, any condition in the upper or lower tract or anything outside the urinary tract such as tumors, pregnancy or strictures, that retard urinary drainage will cause an exaggeration of the ptosis symptoms. When we have these defects existing with ptosis, we have the symptoms of simple ptosis, plus the symptoms that are common to either of the co-existing defects. Aberrant vessels may or may not produce a constant aching in the kidney region, due to back pressure in the pelvis; then on certain motion of the body we might get a quick and severe pain as if pulling on the vessels; this is due to downward motion of the kidney which causes tension on the vessels. The same is true with rotation of the kidney pedicle, only more severe, and is spoken of as Dietl's crisis. Tortuous and rotated ureters manifest themselves along the course of the ureter and bladder.

PATHOLOGY

There is no pathological change in simple ptosis where drainage is not interfered with. Where there is obstruction and back pressure, we will have dilation—(hydronephrosis); later, infection—(pyelitis), and later pyo-hydronephrosis.

INDICATIONS FOR PEXY

Nephropexy is indicated in all cases of simple ptosis that are not relieved by abdominal support. It is also indicated in all ptosis where there are co-existing defects producing pain, and such pain is not relieved by abdominal support. Its strongest indication is in ptosis where there is a co-existing defect that is begnning to produce urinary stasis or showing evidence of dilation of the kidney pelvis. Dr. Braash of Rochester makes the statement that pexy is not indicated except in cases where urinary stasis is beginning. Some of my cases have been operated on for relief of kidney pain, while others demanded relief from epigastric discomfort, even when there was no urinary stasis or dilation. Remembering the old dictum—A well drained kidney rarely becomes diseased, certainly impresses us that the strongest indication for pexy is relief of urinary stasis.

CASE REPORTS

Case 1.—Mrs. O., white female, aged 38 years; 2 children, youngest 9 years of age. Negative menstrual history; enjoyed usual health of individual of this type until two years ago, when began to be nervous; dull backache, some bladder frequency, indigestion and finally nausea, with loss of weight. Physical examination essentially negative, except for palpable kidneys. Urinalysis negative, function normal. Sent to gastro-enterologist for consultation; diagnosed reflex indigestion and referred back. Lower abdominal support fitted; digestive symptoms prescribed for by diet. Six weeks later reports has gained few pounds and feels much better. Urological diagnosis in this case was simple ptosis in both kidneys, which usually obtains relief from abdominal support.

Case 2.—Mrs. B., white female, aged 44 years; mother of 4 children, youngest 9 years of age. Enjoyed usual health of motherhood until three or four years ago, when began to have digestive symptoms and pain in right lumbar region opposite first and second lumbar vertebrae. Some pain in lower end of right ureter. Periodic attacks of bladder irritation. Physical examination negative except for palpable kidney on right side. Urological examination, urinalysis negative. Function good. Urography reveals ptosed kidney on right side, with slight blunting of calyces. Also, there are two defects in the ureter just below the uretero-pelvic junction, which resemble constriction of the ureter. Patient operated on February, 1933; nephropexy was done. Digestive symptoms relieved, lumbar pain relieved; now has some exaggeration of symptoms in lower part of ureter.

Case 3.—Mrs. E., white female, aged 30 years; mother of one child, 4 years of age. Has enjoyed usual health of childhood and motherhood until two years ago, when began to have backache, nerv-

ous indigestion, etc., with some bladder frequency. No definite symptoms referable to kidney. Has lost considerable weight. Physical examination reveals palpable kidney on right side, with emaciation. Urological examination; urinalysis negative; urogram reveals large hydronephrosis on right side and ptosed kidney. Also couple of loops in middle portion of ureter, with some dilation above. Nephropexy done in 1933. Since that time has improved greatly in health, although there is some slight symptom of ptosis on opposite side. At present time, symptoms so slight does not care to have further treatment.

Case 4.—Miss C., white female, aged 25 years; single, small stature. Has enjoyed usual health and activities of a young lady until about 1930, when began to have digestive symptoms and discomfort in right upper quadrant of abdomen, when she was conscious of a movable mass to right of umbilicus. No symptoms referable to urinary tract. Physical examination revealed visceroptosis, with a movable mass to right of umbilicus. Urological examination revealed negative urinalysis; urogram revealed a rather unusual type of pyelogram to right of umbilicus, which was read as anterior rotation of right kidney. Nephropexy was done in 1932, the kidney was anchored well up behind a ptosed liver; since that time she has enjoyed good health and has had no trouble with mass that was to right of umbilicus.

Case 5.—Mrs. W., white female, aged 30 years; one child, 8 years of age. Has always been rather frail, slender, and for last few years has had digestive disturbances with epigastric distress; nausea at intervals for last two years. No symptoms referable to urinary tract. Gastric examination reveals reflex disturbance of stomach. No relief from stomach treatment. Urological examination reveals normal urinalysis; normal function. Urogram reveals double kidney pelvis and double ureter on left side; function good in upper pole, no function in lower pole, with some dilation of lower pelvis. Heminephrectomy was decided upon and carried out; the lower pole was removed, the upper dropped back into its bed and anchored. (Lantern slide demonstration). Urogram at present time reveals good functioning kidney, which assumed its position in lower portion of fatty capsule, with some tortion and displacement, with looping of the ureter. The point I wish to illustrate in this case history is that in doing surgery of this type the kidney should always be placed back in its proper position, and anchored, because if not properly anchored it will anchor itself, and position it would take might not be so favorable for future health.

Case 6.—Mrs. C., white female, aged 65 years; comes into hospital for examination with history of having had nephropexy done by Dr. J. C. Willis, Sr., 20 years ago.

Here is a lady that had nephropeexy done 20 years ago, who now has a normal-looking urogram; I do not know what symptoms demanded nephropexy 20 years ago, but I presume there were symptoms and need of a nephropexy; if so, the results in this case speak well for the procedure and the one who did it.

Case 7.—Mr. G., white male, aged 30 years; tall, slender, emaciated man whose health has not been good for few years, but has had no symptoms referable to urinary tract. January, 1934 fell across piece of timber; since that time has had frequent attacks of Dietl's crisis. The point that I wish to bring out in this case is that here is a man 30 years of age who is in bad health and has had no symptoms referable to urinary tract, or at least not enough to cause him to consult a urologist. Yet, from the urographic examination, we see that he has a bilateral ptosis of the kidneys, with fairly marked stasis on the right side, and marked statis on the left, with loss of kidney function on left and decreased kidney function on the right.

TECHNIC OF NEPHROPEXY

Patient placed on table in usual nephrectomy position. Break in table not as marked as for nephrectomy. Area sterilized in usual manner. Incision made from above 12th rib, parallel with lateral to lumbar muscle, curving laterally above crest of ilium; incison made through muscle, being careful to protect genito-cruel and ilio-ingunal nerves. Kidney isolated, freed of all loose tissue about its capsule. Upper part of fatty capsule opened and either removed or packed anterior to kidney, leaving lower part of fatty capsule in place to act as support. When new position of kidney is determined and pedicle and upper part of ureter is cleared of its loose tissue and sympathetic nerve supply, a rubber band is placed around upper pole, and a like rubber band is placed around lower pole. Each end of this rubber strip is clamped to outer edge of wound, which leaves the kidney swinging in a rubber hammock. There are four right-angle flaps made from the true capsule on either side of the upper and lower poles, leaving a narrow band of true capsule running parallel with kidney, and one running transversely across kidney. These are left in such a manner that the kidney will have support from its capsule and cannot strip itself of capsule. Each of these flaps are sutured beneath the muscle wall, ¾ inch lateral to incision, using 20-day chromic catgut. Edges of wound closed by bringing suture from lateral side under the

capsule strips and across to opposite side. Each suture dips down under capsule enough to give it individual support. From here out, wound is closed in usual manner, leaving the two strips of rubber coming out through wound, which acts to support the kidney and hold it in place until healing and fixation is complete. Rubber strips also serve fastened posteriorly by catgut, which dissolves in 12-14 days, and is removed through the wound as 4 pieces of rubber strips.

DISCUSSION

Dr. J. C. Willis: The subject of floating kidney and nephropexy has proven to be rather a complex one. Some two or three decades ago when modern surgery was emerging from its more or less embryonic state, medical and surgical literature at that time had quite a great deal to say about this subject and it was a question of common discussion in local state and national medical associations. It vied almost in importance with our old friend the appendix as an operative procedure but for some reason or reasons operations for the replacement of floating kidneys lost cast and the pendulum swung backward almost to the vanishing point. No doubt to some extent this was due to the fact that in a great many instances it failed to relieve symptoms which were supposed to have been relieved. Perhaps for the reason largely that the proper discrimination was not made in making a diagnosis before the operative procedure, especially so when we take into consideration that many of these cases are due to a general sphlancnoptosis in which a simple nephropexy is perhaps worse than useless, and the operation as a whole lost cast. Then perhaps another reason was that these conditions gradually passed out of the hands of the general surgeon into those of the G. U. specialists, many of whom were not trained surgeons and they naturally looked for other causes that entered into the etiology of the conditions and found that by no means all of the symptoms of which the patient complained were due to the displaced kidney and adopted non-surgical methods to correct them. Nevertheless it is my opinion along with that of the essayist, that many of these conditions respond to surgical attention but only after a thorough examination has been made, for as a matter of fact it matters not what the position of the kidney may be providing it is functioning properly without pain. Really most of the trouble produced by a misplaced kidney is due to the kinking of the ureter with obstruction. These are the conditions in which we get our brilliant results by operative procedures.

As to the operation for misplaced kidney I have never found any improvement over that of splitting the capsule two ways, vertically and transversely, and suturing the upper flap of the capsule to and over the 12th rib with 40-day catgut and the other flap to the adjoining muscle and facia, and keeping the patient in a prone position for at least three weeks. That has proven very satisfactory in my hands. That was the method I used in the case referred to by Dr. Stamper in his case history of 20 years ago. So, on the whole, I believe we should be very careful in making our selections for nephropexy but at the same time approach the subject with an open mind for we will find many of these cases that will be benefitted thereby.

SUPPURATIVE OTITIS MEDIA*

A. L. PETERS, M. D.
MONROE, LA.

In choosing this subject I realize that I am dealing with one of the oldest diseases or conditions in medicine, and I stop here to say that it is my purpose solely to emphasize and to remind you of a few of the fundamentals that should be recognized in the study, diagnosis and treatment of a disease that is so commonly overlooked, neglected or passed over by the public, the practitioner and often by the specialist.

It is the writer's opinion that there are few diseases today that are causing more economic loss in the way of physical defects than acute and chronic suppurative otitis media with its many complications and sequelae. Therefore, I think the subject should be of great interest to all practitioners. Limited time does not permit a detailed description of the anatomy of the middle ear and its intricate appendages—neither its histological formation. Suffice here to say the middle ear should in definition include the tympanic cavity with the attic, the eustachian tube and the mastoid process. Therefore, the etiological factors concern the threefold area. To the otologist the tympanic area with its medial wall, containing the promontory corresponding to the first turn of the cochlea, the oval window above, and the round window below the facial canal behind, and the covering of the external semicircular canal above and behind is of interest.

Acute and chronic otitis media presuppose extension of infection from the nasopharynx

---

*Read before the Louisiana State Medical Society, Shreveport, April 11, 1934.

through the eustachian tube by direct transmission from the blood stream, (thrombotic in the acute exanthems) or from infections in the teeth, septic tonsils, sinuses and rarely from the external auditory canal—hence the management of preventing intra-tympanic involvement demands a careful scrutiny of these areas. The bacteria most prevalent in these infections are the Staphlycoccus albus and Staphlycoccus aureus, the streptococcus, pneumococcus, influenza bacillus and colon bacillus.

The symptoms in infants and young children which direct attention to the ear are: Fever, restlessness, continued crying, lack of appetite, reflex hacking cough, followed by a whining cry or facial expression of pain, and occasionally convulsions. In older children pain is usually complained of. The above are the usual symptoms, however, it is a known fact that we can and do have suppurations in the middle ear without evidence of ear symptoms—hence in doubtful cases of infective fevers and gastro-intestinal disturbances it is well to look in the ears. The value of the picture presented by the line of the malleous and its short process, the vascularity bordering the annulus, malleolar line, the differentiation of the surface myringitis and the occasional horizontal fluid line should all be emphasized in completing our diagnosis.

Treatment should not be confined to the ear, but should be directed towards the throat and sinuses, and attention to the well-being of the patient. Removal of the tonsils and the adenoids and attention to the nose in way of eliminating the primary foci of infection is necessary in perfecting a cure. Many of these patients are under-nourished and show a vitamin deficiency which should be supplied by concentrated cod liver oil.

Locally, analgesic drops should be discontinued when pain subsides, early and thorough drainage being the prime object in the acute type. The almost universal habit of irrigating the ears with warm soda and boric acid solution should be prohibited. If irrigations are necessary, it is better to use Dakins' solution or hexyresorcinal solution, being careful to dry the canal thoroughly after each irrigation. Rest in bed away from constant noises should be as essential in acute ear infections as the dark room is to the acute eye conditions. The influenza germ is so labile that patients are advised to stay quiet until the temperature is normal, no matter how slight the respiratory infections because experience has shown that pneumonia will often occur in ambulatory cases. The ear with the grippe germ does not receive the same solicitude, notwithstanding the frequent complications of mastoiditis, chronic deafness and heart affections in the form of toxic myocarditis.

The diagnosis of chronic suppurative otitis media should cause very little concern, but the successful management depends on our knowledge of the size and location of the perforation and the character of the discharge. In a case presenting a small perforation in the post superior region of the drum with a small amount of thick, fetid pus constantly oozing, with granulations and cholesteroma, we can not offer much relief in the way of local or medicinal treatment, but will have to resort to radical mastoid surgery. In a second type where we have a perforation in the antero-inferior portion of the drumhead, the discharge is mucoid in character following a catarrhal infection in the nose, we should direct our attention to the nose and eustacian tube. Unless the foci of infection can be eliminated, we will not gain much by treatment to the ear.

Where the perforation is in Shrapnel's membrane and very small it is impossible to reach the infected area by ordinary methods of treatment. For this type of cases the trans-mastoid atticotomy has been advised by Bandy and others.

Lastly, we find the case with a large perforation below the handle of the malleous, often involving the greater part of the membrana tensa. The discharge is muco-purulent in character with no odor except in cases where stagnation occurs in the external meatus from lack of proper hygeinic care by the patient. Here the infection is obviously limited to the tympanic cavity, there being no evidence of mastoid involvement or tubal infections. In this type of cases we can offer a cure by vigorous local treatment in the way of thorough cleansing, keeping the canal free from secretions and dry, plus antiseptics. Personally, I have had satisfactory results with 2 per cent iodine powder

or 1/5 per cent bichloride of mercury in tincture benzoin compound. Any treatment to be successful must reach the cavity and be well distributed over the infected area.

According to Friel, the cause of chronicity in this class of case is due to a mixed infection of the discharge. When a patient gets an attack of acute otitis media his tissues are invaded by a micro-organism of one species. If adequate drainage is provided, the protective mechanism of the body soon overcomes the invader and a cure results. Should the discharge become infected with various micro-organisms from the meatus, then the discharge consisting of these micro-organisms and their products, serum and broken down leukocytes irritates the mucosa with which it is in contact and this responds by secreting pus. Thus the beginning of chronicity occurs. Other factors, such as polypi and caries, are added later.

By establishing drainage and by syringing and drops we remove macroscopical collections of discharge, but we often fail to remove a microscopical layer which clings to the mucosa. Friel considers that zinc ions introduced with a galvanic current will penetrate this layer and sterilize it by causing a coagulation necrosis of its albuminous contents, including the micro-organisms themselves. As soon as this occurs, the mucosa, being no longer irritated, at once stops discharging.

In conclusion, I again emphasize that the early recognition and proper treatment will prevent chronicity in practically all acute cases, and the proper clasification and treatment will give gratifying results in all chronic cases.

DISCUSSION

Dr. John T. Crebbin, (Shreveport): It is universally accepted as a fact that practically all cases of suppurative otitis media are a sequela of other diseases. Bearing this in mind one will appreciate the importance of treating and preventing the above complication.

Infants and children are known to contract many diseases, the complications of which is a suppurative ear. This is made possible when we remember the open orifice and position of the eustachian tubes. Through this tube infection travels from the naso-pharynx into the middle ear. Diseased and hypertrophied pharyngeal and faucial tonsils frequently cause this complication. Removal of these tonsils will frequently effect a cure.

Considering that most of these complications occur in childhood a careful and thorough treatment and operation will cure a vast majority of these cases, this concerning the health and hearing of these little ones.

Except in the hands of a physician syringing and irrigating should be discouraged.

There should be no doubt in the minds of the attending aurist relative to an early mastoidectomy in acute suppurative otitis. One is justified in insisting upon this operation if there is no improvement after a reasonable time of careful and intelligent treatment. Of course, one should require the assistance of a roentgenogram and a total and differential blood count before operating. However, the same rule governing acute suppurative otitis does not apply to a chronic suppurative otitis media.

Years ago iodine powders were used extensively, but for some unknown reason they fell into disuse. Now some form of iodine powders are generally accepted as routine practice.

We cannot overlook the excellent results following the use of zinc ionization treatment in chronic suppurative otitis media. I have found the Miller outfit of New Orleans a most satisfactory instrument. A trial of this form of treatment will doubtless result in more cures.

Dr. C. A. Weiss, (Baton Rouge): The classical treatment of suppurative otitis media has been very well covered in the paper by the essayist. However there is one phrase of this subject, in which we as aurists have been derelict in our duty toward the victims of chronic suppurative otitis and that is in not impressing upon these sufferers the very seriousness of their affliction. The tremendous danger they are running in subjecting themselves to the fulminating dangers of brain involvement from the extension of the apparently dormant middle ear suppuration to the brain, both by direct extension through the necrotic tegmen antrum or through the blood stream.

Dr. Peters (closing): Limited time does not permit any further discussion, but in closing I want to thank Drs. Crebbin and Weiss, for their discussions, and again emphasize the concluding paragraph that the early recognition and proper treatment will prevent chronicity in practically all acute cases, and the proper classification and treatment will give gratifying results in all chronic cases.

A SIMPLE METHOD OF PRESCRIBING DIETS FOR DIABETICS*

I. I. LEMANN, M. D.†
NEW ORLEANS

It is proper to begin with a general disclaimer

*Read before the Orleans Parish Medical Society, April 23, 1934.

†From the Department of Medicine, Tulane University, School of Medicine and Touro Infirmary.

of entire originality for the plan that I am about to present. Some of it had origin with the work of Van Noorden thirty-five years ago, and perhaps even more of it is due to the influence of Rabinowitch of Montreal. In any plan there are certain definite principles which must be laid down and insisted upon. The first of these is that every diabetic presents a problem of his own, and that the diet must be prescribed for him not only qualitatively but quantitatively. There is no such thing as a diabetic diet. The second principle with which the diabetic patient must be thoroughly impressed is that the diet once prescribed must be adhered to day by day in quantitative fashion. If the patient is to be treated adequately he cannot be permitted to stray from the straight and narrow path of the diet, and indeed, if he is taking insulin he may not safely venture to do so. In former years I followed the example of Joslin, whom I regard as the greatest of the authorities on diabetes, and insisted that the diabetic diets should be weighed. I spent much time in training not only my students, internes and nurses, but also the patients, their mothers, wives and sisters in the calculations necessary to fill a diet prescription in terms of food stuffs. I still believe that it is profitable for doctors and nurses to be proficient in this. Yes, even patients of intelligence find their reward in learning the principle of diet calculation by extending the variety of their diet. This latter is necessarily somewhat hampered by the stereotyped scheme I am about to describe to you. When, however, we have to deal, as we do in our diabetic clinic, with people of poor intelligence and very limited education it becomes necessary to provide another simpler way by which they can live up to our instructions. It must be remembered, too, that these patients are unable to afford to purchase scales costing nearly ten dollars. It was in attempting to provide this simple way for the unintelligent and the poor that the plan of measuring instead of weighing was elaborated. We found it necessary at once to adopt stereotyped daily menus consisting of standard and relatively cheap articles of diet. The menus which I have exhibited to you can be had in New Orleans at the cost of twenty cents per day per person where the purchases are made in a family of five. The fluids, cereals and cooked vegetables are measured in an ordinary half-pint cup and tablespoon, and the prescription you will observe is expressed in terms of fractions of these measures. Raw fruits and eggs are expressed in terms of units. Bread is measured in terms of a block of wood, $3\frac{1}{2} \times 3\frac{1}{2} \times \frac{1}{2}$ inches. A piece of bread of this size would weigh 30 grams, or one ounce. Similarly the meat portion is indicated by a block of wood $4\frac{1}{2} \times 2 \times \frac{1}{2}$ inches. A piece of meat this size would weigh 60 grams, or 2 ounces. No attempt is made to distinguish between meat, fish or fowl. Also no difference is made between the so-called 3 per cent vegetables, spinach, lettuce, cabbage, etc., and the 6 per cent vegetables, beets, carrots, pumpkin, turnips, etc. This is done for the sake of the simplicity of things, and after all the amount of available carbohydrate from these sources is relatively small and not quickly available so that the difference of a few grams from day to day cuts no figure whatever. The patients are told that they need not take all of the bread prescribed in the form of bread, but may substitute for each slice set quantities of cereals. All these instructions are indicated on the sheet which I have distributed (see Table I.).

I repeat that this method of diet estimation is only approximate and in all probablity there would be some variation of a few grams in the quantity of carbohydrate, protein and fat from day to day. The variation in the carbohydrate would be very little. The variation in the protein might be somewhat greater, depending upon whether meat or fish were taken. Even in the latter instance, however, the differences would not be great enough to cause any trouble. It must be remembered, too, that the figures given in the dietetic tables represent averages of food analyses and when the range of those analyses is examined a fair percentage of variation is found. I do not believe, therefore, that the plan proposed introduces any undue factor of variation. The usual dietetic plan is an approximate one at best, even when the food is carefully weighed out, and we should not strain at a gnat. What we must insist on is that the amount of food must remain the same day by day.

The other essential factor of our plan lies in the fact that the stereotyped meals outlined in

the table provide what we term a basic diet of 100 grams of carbohydrate, 50 grams of protein, and 50 grams of fat. From this basic diet we may build up or tear down. Chiefly we do the former. If, for example, we wish to increase the carbohydrate, we add a portion of bread, thus adding 18 grams of carbohydrate to the diet. The patient is told, of course, that he need not take this additional bread as bread, but may use the substitutes. We may add two or three such portions, or if we wish a half portion. If we wish to increase the protein, we add a portion of meat or a fraction thereof. If we wish to add to the fat, we add butter measured by the teaspoon, each teaspoon being, as you see from the table, 4½ grams of fat, or we add salad oil, each tablespoon being equivalent to 15 grams of fat. You see how simple it is to modify this basic diet. I repeat that this is a basic, not a standard diet. It is intended to provide a base line from which we can vary up or down.

Now for the reasons for selecting the figures of 100 C, 50 P and 50 F. From the very earliest days of the insulin era I have always felt that the diet should provide a good quantity of starch; that the patients should no longer be condemned, as they had previously, to live largely upon green vegetables alone. As soon as we had insulin to take care of an ampler diet we had no reason other than a financial one for restricting the diet too greatly. As insulin grew cheaper and cheaper, going down from the initial cost of five cents per unit to the present cost of approximately two-thirds of a cent per unit, the need for taking this into consideration has grown less. This has not been the only reason, however, for the general trend of clinicians working in the field of diabetes to adopt diets higher and higher in carbohydrate values. The pioneer and chief advocate of very high carbohydrate diet is Sansum of Santa Barbara, California. Rabinowitch of Montreal holds approximately the same views. As Sansum has pointed out those patients seem to do best whose carbohydrate has never been very closely curtailed. I have not time to elaborate upon the argument. I wish merely to say that while I have not been convinced of the desirability of going to the extreme limits that Sansum and Rabinowitch have adopted, I have consistently increased the minimum carbohydrate allowance so that I believe now that 100 grams of carbohydrate is the optimum minimum. At the introduction of insulin I used 50 grams of carbohydrate as the minimum. Others were using much less. A diabetic who cannot care for 100 grams of carbohydrate without glycosuria should take insulin in order to do so. This is in line with the old work of Van Noorden who years ago laid down the proposition that 100 grams of white bread daily, or its equivalent in carbohydrate, should be allowed every diabetic whether he could become aglycosuric on this allowance or not. Dr. Joslin has told me that the average carbohydrate allowance in his clinic is now 125 grams. This represents a far advance from his diets of 40 grams, or less in some cases, in the early insulin days.

We now turn to the matter of the protein allowance. It is generally agreed that the protein ration should be two-thirds of one gram per kilogram of body weight for adults. Children should have two grams, or even more. I have chosen 50 grams as the daily ration because this fits the largest number of patients. Fifty grams represents five sixths of a gram per kilo for a patient of 60 kilos (132 pounds). It is five seventh of a gram for a patient of 70 kilos (154 pounds). It is two grams per kilo for a child of 25 kilos (55 pounds). It is of course understood that for patients weighing 80 kilos, or more, a larger amount of protein must be provided. The fat ration of 50 grams represents the irreducible minimum. Nearly this amount is necessary for incidental cooking. I agree with Rabinowitch in his advocacy of low fat diets which render it possible to increase the carbohydrate allowance. High carbohydrate, low fat represents a diet much more to the taste of the average American than does the reverse.

SUMMARY

The proposed plan includes: (1) A measured instead of a weighed diet. This is not original but based largely upon the suggestions of Rabinowitch. (2) A generous allowance of starch representing a minimum below which it is not desirable to go. This is not original but has its derivation from the work of Van Noorden years ago. (3) The disregard of small differences of starch content represented by the classification of vegetables into 3 per cent and

TABLE I.

Name:	Date:	Diet	C.	P.	F.
BREAKFAST:	Household Measures	Grams	C.	P.	F.
Fruit (from list)	One portion	100 gms.	10	--	--
Egg or	One			6	6
Bacon	2 small strips				
Bread	1 slice 3½ x3½x½ in.				
	1 oz. (see block of wood)	30 gms.	18	3	--
Butter	1 teaspoonful	5 gms.	--	--	4
Milk	½ cup	100 gms.	5	3	4
DINNER:					
Lean meat or fish or chicken or 2 eggs	1 portion, 2 oz. (see block of wood)	60 gms.	--	16	10
Vegetables (from list)	2 portions*	200 gms.	6	1	0
Bread	1 slice (as at bkfst.)	30 gms.	18	3	
Butter	2 teaspoonfuls	10 gms.	--	--	9
Fruit	Average portion	100 gms.	10	--	--
SUPPER:					
Lean meat or fish or chicken or 2 eggs	1 portion, 2 oz. (see block of wood)	60 gms.	--	16	10
Vegetables (from list)	2 portions	200 gms.	6	1	--
Bread	1 slice (as at bkfst.)	30 gms.	18	3	--
Butter	2 teaspoonfuls	10 gms.	--	--	9
Fruit (from list)	Average portion	100 gms.	10	--	--

6 per cent respectively. (4) The adoption of a basic diet from which variations may be made upward and downward.

VEGETABLES ALLOWED: (*One portion—¾ cup) Asparagus, beets, brussels sprouts, cabbage, celery, cucumbers, eggplant, endive, kohl-rabi, leeks, lettuce, mushrooms, mustard greens, okra, onions, peppers, radishes, sauerkraut, spinach, string beans, summer squash, tomatoes, turnips, watercress, carrots, cauliflower.

FRESH FRUITS ALLOWED: ½ small honeydew melon, ½ small canteloupe, watermelon, size of medium orange, ¾ cup blackberries, ¾ cup strawberries, orange of medium size, 1 small grapefruit, peach of medium size, 2 slices or 2-3 cup fresh pineapple, a small apple, 1 small pear.

SUBSTITUTIONS: Instead of *one* slice of bread, you may take one of the following: ¾ cup oatmeal (cooked), or 2-3 cup cream of wheat (cooked), or 2-3 cup grits (cooked), or 2-3 cup rice (cooked), or ½ cup red beans (cooked), or ½ cup white beans (cooked), or 1 medium potato, or 2-3 cup mashed potatoes (cooked), or 1 cup cornflakes, or 1 shredded wheat biscuit, or 5 crackers, (saltines), or 1 small banana, 1 cup spaghetti, 1 cup macaroni.

NO SUGAR NOR ANYTHING CONTAINING SUGAR.

Instead of one teaspoonful of butter, you may take equal quantity of: Mayonnaise, lard, oleomargarine, bacon fat, chicken fat, goose fat, or ¾ teaspoonful wesson oil.

Instead of one portion of meat, you may take one of the following: breakfast cream cheese 1-3 cup and ¼ cup of breakfast cream, crab meat 2-3 cup and 2 teaspoonfuls butter, salmon ½ cup, tuna fish ½ cup, 8 medium sized shrimp and 2 teaspoonfuls butter, American cheese 2 oz., or portion the size of block of wood used to measure meat minus 2 teaspoonfuls of butter.

Instead of 2 portions of vegetables and 4 teaspoonfuls of butter you may take ½ medium sized alligator pear or 2-3 cup diced alligator pear.

NOTE: Tea or coffee may be taken not more than twice daily.

Vinegar, salt, pepper, mineral oil, mayonnaise, clear broth, thin vegetable soup, may be taken as desired.

THE HIGH CARBOHYDRATE DIET IN DIABETES MELLITUS*

M. GARDBERG, M. D.†
NEW ORLEANS

When it was shown that the carbohydrate of the diet accounts for the urinary sugar in diabetes and that even protein gives rise to sugar in the body and may be excreted in the same fashion (by the diabetic) it became a generally accepted principle that the carbohydrate and protein of the diabetic diet should be rigidly restricted and that the required total calories should be furnished in the form of fat—"a material which, owing to the special character of the diseased function, he (the diabetic) cannot squander so easily (48)". These high fat, low protein, low carbohydrate diets reached their most extreme form under Petren, who advocated diets of 30 to 40 grams of carbohydrate, 20 to 30 grams of protein and 200 to 250 grams of fat. The huge amounts of fat consumed by the diabetic were believed to have little influence upon the glycosuria. Frederick M. Allen[1, 2, 3, 4] in 1914, first reported that the glycosuria of the diabetic was affected by the fat content of the diet to a greater extent than could be explained by the alleged conversion of its glycerol component into glucose. After extensive experimental work on partially depancreatized dogs and human diabetics, Allen concluded that diabetes should be regarded as a disease of total metabolism and not of carbohydrate metabolism alone, for he found that "the addition of fats to a fixed diet suffices to bring back both glycosuria and ketonuria in most diabetics", and therefore, that "the tolerance for fats and calories should be followed in the same way as the tolerance for carbohydrates and proteins". He believed that the glycosuria was affected by all the energy bearing constituents of the diet, and showed that alcohol which is believed to be converted into neither carbohydrate nor fat increases the glycosuria of the diabetic. Accordingly he began to employ fast periods in the treatment of severe diabetics in order to abolish the glucosuria, and the diets which he ultimately allowed these patients were not so rigid in the restriction of carbodydrate as had formerly been the custom. However, they were restricted in total caloric value and caused a loss of weight which he believed to be a prime object of treatment, for in accord with his conception of diabetes as a disease of total metabolism he considered it necessary to reduce the total metabolism in proportion to the severity of the disease. Thus originated the principle of undernutrition which was championed for years, not only by Allen, but also by Joslin.

Needless to say the work of Allen was not generally accepted. Most workers, including Newburgh and Marsh[6, 7, 8] Woodyatt[9] and Wilder[10] continued to adhere to the principle that the glycosuria of the diabetic was affected only by the "glucogenetic" factors of the diet. During the time that this controversy was carried on Joslin[11] pointed out that the acidosis which occurred in many cases was attributable to the ingestion of large amounts of fat. However, Newburgh and Marsh[6, 7, 8] soon showed that diets containing moderate amounts of fat should be tolerated by diabetics without the development of acidosis and immediately afterward Woodyatt[9] developed the formula F equals 2C plus P/2 (which was based upon an antiketogenic:ketogenic ratio of 1:1.5) which made it possible to prescribe the minimum amount of carbohydrate and the maximum amount of fat consistent with the avoidance of acidosis. Later Wilder showed that the antiketogenic:ketogenic ratio could be reduced to 1:2. The resulting method of calculation of diabetic diets, i.e., by the application of the Woodyatt formula to the Newburgh and Marsh diet reached great popularity and has been generally employed by the profession.

At the time that insulin was made available by Banting and Best the controversy was still at a deadlock. Allen[2] repeated his experiments on animals and humans taking insulin and reported results which upheld his original contention that the feeding of fat influenced the glycosuria of the diabetic, for he found that the insulin requirement was affected by the fat of the diet as well as by the carbohydrate and protein. On the strength of these findings he has continued to point out the lack of necessity to reported unusual results with the use of high

*Read before the Orleans Parish Medical Society, April 23, 1934.

†From the Department of Medicine, Tulane University, Graduate School of Medicine.

restrict the carbohydrate intake to a minimum. In 1926 Sansum, Blatherwick and Bowden[14, 15] carbohydrate-low fat diets in the treatment of diabetes. They found that they could substitute large amounts of carbohydrate for fat in the diet of the diabetic, often without increasing the insulin requirement. Furthermore, they reported that after the change to the carbohydrate diet the patients "felt better and were more active and happier than when taking the high fat diets," and that the rate of improvement of the diabetic state was more rapid. During the same year Geyelin,[36] in this country, and Aldersberg and Porges[45, 46] in Vienna, likewise reported the use of high carbohydrate diets, stressing the fact that the insulin requirement was not appreciably increased by the change in the diet, and also pointing out the favorable influence of the new diets on the general well-being of the patient.

Sansum and his co-workers [17, 18, 23, 28, 33] continued to publish reports similar to their first and soon these were followed by those of Richardson,[16] Rabinowitch,[19] Poulton,[21] Himsworth,[22] and Dyke.[20] These workers all found that with the change from the high fat to the high carbohydrate diet the insulin requirement must be increased either very slightly or not at all.

CASE REPORTS

About two years ago dietary manipulations similar to those described in the reports cited above were carried out on all diabetics available at that time. The results were similar to those reported by Sansum, Rabinowitch, and others, but, of course, are less impressive because the number of cases in the series is so very much smaller; fifteen in all. The patients were placed on high fat diets and when the urine had become sugar-free the diet was suddenly changed to one high in carbohydrate (150 to 250 gm.) without any change in its total caloric value. In no case was it necessary to change the dose of insulin with the change from the high fat to the high carbohydrate diet. In some cases the diet was changed before the urine had become sugar-free and even in these cases there was no increase of the glycosuria as a result. In some of these latter cases the glycosuria actually disappeared with the change of diet despite the fact that the insulin dosage was not further increased. The accompanying tables are representative records of these results.

Since the time that these experiments were performed (July, 1932) the high carbohydrate diet has been used exclusively in diabetes. The patients so treated have been found to be much happier than those forced to take diets high in fat content. The insulin requirement falls at least as rapidly as it does when the high fat regime is employed. Three patients who were first seen with infections (one in coma) and who were taking 45, 50 and 50 units of insulin daily at the beginning of treatment, after one year, are now requiring 5, 10 and 15 units respectively. It is not possible to say that reduction of insulin dosage has been accelerated in these cases by the use of the high carbohydrate diet, but certainly one can conclude that improvement in these cases has taken place at least as rapidly as could be expected, and that the high carbohydrate regime is not disadvantageous in this regard.

Mr. K. B. H.

Date	Sugar in Urine	Diet in Grams C	P	F	Blood Sugar	Insulin.
8/ 8	7.0	85	71	148	235	10
8/ 9	3.0	"	"	"		"
8/10	1.0	"	"	"	132	20
8/11	0.0	"	"	"		"
8/12	"	"	"	"	133	"
8/13	"	197	75	99		"
8/17	"	"	"	"	133	"
8/22	"	"	"	"		"
8/23	"	"	"	"	133	"
8/29		"	"	"	125	"
9/ 6		"	"	"	123	"
9/11		"	"	"	128	"

Mrs. E.

Date	Sugar in Urine	Diet inGrams C	P	F	Blood Sugar	Insulin	Cal.
8/ 4/32					500		
8/ 5	18.0	45	45	94	228	20	1202
8/ 6	13.0	"	"	"		"	
8/ 8	2.6	67	46	"	133	"	1298
8/ 9	1.3	"	"	"		"	
8/10	1.2	"	"	"		25	
8/11—15	0.0	"	"	"	100	"	
8/15	0.0	"	"	"	87	"	
8/18							
8/20	1.5	150	50	76		30	1484
8/22	1.7	160	"	"	117	"	1524
8/23—27	0.0	"	"	"		"	
8/27	0.0	"	"	"		25	
8/31		"	"	"	111	"	
9/ 7	0.0	170	55	90		31	1710
9/20	0.0	"	"	"	117	"	

This patient gained 10 pounds during this period.

Mrs. L. M.

Date	Sugar in Urine	Diet in Grams C	P	F	Blood Sugar	Insulin.
10/21	42.0	140	70	70	420	60
10/22	11.0	"	"	"		90
10/23	10.0	"	"	"		90

10/24	7.6	"	"	"		"
10/25	2.4	"	"	"		"
10/26	3.0	"	"	"	286	"
10/27	4.7	"	"	"		"
10/28	2.4	"	"	"		"
10/29	0.0	200	60	45		"
10/30-11/1	0.0	"	"	"		"
11/2	0.0	"	"	"	258	"
11/3-11/4	0.0	"	"	"		"

Obviously a severe diabetic. Diabetes complicated by a chronic pyeleitis which flared up on 11/5 and glycosuria reappeared.

Mrs. H. J.

Date	Sugar in Urine	Diet in Grams C	P	F	Blood Sugar	Insulin.
10/17	12.5	140	70	70	320	30
10/20	Trace	"	"	"	105	45
10/21-24	Sl Tr	"	"	"		45
10/24	"	"	"	"	132	45
10/26-11/1	"	"	"	"		50
11/1	0.0	230	70	30		50
11/2	0.0	"	"	"	184	"
11/3	9.5	"	"	"		"
11/4	0.0	"	"	"		"
11/5	2.0	140	70	70		"
11/7-9	0.0	"	"	"		"
11/9	0.0	230	70	70	143	"
11/10	0.0	"	"	"		"

DISCUSSION

The explanation of the fact that it is possible to substitute large quantities of carbohydrate for fat in the diabetic diet without materially influencing the insulin dosage is still in need of much clarification. According to the views of Allen it is due to the influence of the feeding of fat which he believes causes a demand for insulin greater than can be accounted for by the conversion of its glycerol component into carbohydrate, either because insulin is necessary for the oxidation of fat or because the feeding of fat in some way influences carbohydrate metabolism. Adlersberg and Porges[45, 46] are of the opinion that the phenomenon is due to the fact that the glycogenetic function of the liver is greatly improved by the large stores of glycogen which accumulate within its cells when the patient is taking the high carbohydrate diet. Another explanation which has been offered of course, is that fatty acids are converted into glucose, before being oxidized. There is too little space here for discussion of this special problem in detail and since no definite conclusion could be reached thereby, it will not be pursued further.

The influence of various types of diets on the blood sugar tolerance curves of normal individuals has been studied by Hamman and Hirschmann[29], Wilder, Boothby and Beeler[41], Greenwald, Gross and Samet[30], and by Sweeney[26]. All agree that non-diabetic individuals who have been taking high fat diets (experimental) give glucose tolerance curves which approach those of the diabetic. After several days of a high carbohydrate diet the curves in these same individuals were normal. There can be no question then, but that the tolerance to glucose is augmented in the normal individual by the high carbohydrate diet just as it is in the diabetic. Whether the effect is actually due to the withdrawal of fat or to the increase of the carbohydrate of the diet one cannot determine from the work of the above authors. However, Foster[31], Lennox[32] and Katsura[43] in studying the effect of repeated administrations of glucose on the blood sugar curve of normal individuals discovered that the rise of the blood sugar concentration following each successive dose of glucose was less than that caused by the dose immediately preceding it. There is not space here for a detailed discussion of this matter but it is justifiable to conclude from this work that the glucose utilizing mechanisms of the normal individual are stimulated by the administration of glucose—that the blood sugar arises occasioned by successive doses of glucose (at proper intervals) become less and less because the carbohydrate storing and oxidizing processes are stimulated to greater activity by the preceding doses of glucose and the glucose absorbed is thus not allowed to accumulate in the blood as rapidly as before.

From the evidence cited it may be concluded that the rate of utilization of glucose is stimulated by the administration of glucose, that the repeated administration of glucose effects a continued augmentation of the rate of utilization of glucose and that as a result of this phenomenon the height to which the blood sugar concentration rises after the ingestion of glucose by an individual on a high carbohydrate diet is definitely below the level reached in the same individual when partaking of a low carbohydrate diet.

The diabetic differs from the normal indiv-

idual in that his glucose utilizing mechansms respond less well to the admnistration of glucose. In the words of Peters[47] "the characteristic disturbance is a diminution of the maximum rate to which the glucose utilizing mechanisms can be accelerated." The defect in diabetes is quantitative and not qualitative, for only in the "total" diabetic (a rarity) is it true that the combustion and storage of glucose cannot be stimulated at all by the administration of glucose. Evidence that this is true is furnished by the fact that within certain limits only parts of successive increments of glucose administered to the diabetic are excreted in the urine; the size of the protion of each increment utilized depending inversely upon the severity of the disease. Another evidence that the glucose utilizing mechanisms of the diabetic are stimulated by the administration of carbohydrate resides in the fact the rise of the blood sugar concentration following the latter meals of the day are never as great as those which follow breakfast.[47]

From the above observations it seems justifiable to conclude that the rate of utilization of glucose by the diabetic is stimulated by the administration of glucose, but to a degree limited by the severity of the disease; and that the repeated administration of glucose in amounts within the limits of the tolerance of the individual effects a continued augmentation of the rate of utilization of glucose and that as a result of this phenomenon the height to which the blood sugar rises after the ingestion of a given amount of glucose by a diabetic on a high carbohydrate diet is definitely lower than the level reached in the same individual when partaking of a low carbohydrate diet. Thus the tolerance of the diabetic can be expected to vary, within limits, with the carbohydrate content of the diet, being greater with the high carbohydrate diet than with the low. The range of variation becomes narrower as the severity of the disease increases, but becomes wider with the administration of artificially added insulin.

That the diminution of the fat content of the diet is also, in part, responsible for this phenomenon is indicated by the results of Allen's fat-feeding experiments.

SUMMARY

A short review of the development of the dietary treatment of diabetes mellitus is presented. A small series of experiments is reported to show the effect of the use of the high carbohydrate diet on the insulin requirement. Certain aspects of carbohydrate metabolism are discussed in relation to the problem involved.

CONCLUSIONS

1. That there is no simple relation between the carbohydrate intake of the diabetic and the insulin requirement.

2. That the relatively high carbohydrate diet requires the use of little (if any) more insulin than the high fat diet.

3. That they do not impede improvement of the metabolic defect.

4. That these facts together with the discarding of the practice of weighing the diet will lead to a general simplification of the treatment of diabetes, and a great lessening of the discomforts of both patient and physician.

BIBLIOGRAPHY

1. Allen, F. M.:Studies concerning diabetes. J. A. M. A., 63:939, 1914.

2. Allen, F. M.: Prolonged fasting in diabetes. Tr. Assn. Am. Phys., 30:323, 1915.

3. Allen, F. M., and DuBois, E. F.: Clinical calometry: metabolism and treatment in diabetes. Arch. Int. Med. 17:1010, 1916.

4. Allen, F. M.: Role of fat in diabetes. Am. J. M. Sci., 153:313, 1917.

5. Joslin, E. P.: Diabetic Manual. Phil. Lea, 1919.

6. Newburgh, L. H. and Marsh, P. L.: The use of high fat diet in the treatment of diabetes mellitus Arch. Int. Med. 26:647, 1920.

7. Marsh, P. L. et als.: The nitrogen requirement for maintenance in diabetes mellitus. Arch. Int. Med. 29:97, 1922.

8. Newburgh, L. H. and Marsh, P. L.: The use of high fat diet in the treatmnt of diabetes mellitus (second paper-blood sugar). Arch. Int. Med., 27:699, 1921.

9. Woodyatt, T. R.: Objects of method of diet adjustment in diabetes. Arch. Int. Med., 28:125, 1921.

10. Wilder, R. M.: Optimal food mixture for diabetic patients. J. A. M. A., 78:1878, 1922.

11. Joslin, E. P.: Diabetes Mellitus. Phil. Lea, 1923.

12. Allen, F. M.: Clinical observations with insulin. J. Metabol. Res. 3:63, 1923.

13. Allen, F. M. and Sherill, W.: Clinical observations on treatment and progress in treatment of diabetes mellitus. J. Metabol. Res. 1:277, 1922.

14. Sansum, W. D. et als.: Use of high carbohydrate diets in the treatment of diabetes mellitus. J. A. M. A., 86:178, 1926.

15. Blatherwick, N. R. et als.: Insulin requirement of various diets. J. Metabol. Res., 7-8, 39, 1926.

16. Richardson, R.: High carbohydraje diets. Am. J. M. Sci., 177:426, 1929.

17. Sansum, W. D.: High carbohydrate diets. Colo. med., 24:207, 1927.

18. Gray, P. A. and Sansum, W. D.: Unusual effect of carbohydrate, rich-fat poor diabetic diet; Report of a case. Endocrinology, 15:234, 1931.

19. Rabinowitch, I. M.: Present status of high carbohydrate low calorie diets for the treatment of diabetes. Canad. M. Assn. J., 26:141, 1932.

20. Dyke, S. C.: Increased carbohydrate in the treatment of diabetes mellitus. Lancet, 1:978, 1932.

21. Poulton, E. P.: Discussion of the use of high carbohydrate diets in the treatment of diabetes. Proc. Royal Soc. Med., 24:1291, 1931.

22. Himsworth, H. P.: Recent advances in the treatment of diabetes. Lancet, 2:978, 1931.

23. Sansum, W. D.: Diabetes mellitus. Harper's Medical Monographs.

24. Joslin, E. P.: An appraisal of the present treatment of diabetes. J. A. M. A., 97:595, 1931.

25. Joslin, E. P.: The control and treatment of diabetes. N. Y. St. J. Med., 30:1461, 1930.

26. Sweeney, J. S.: Dietary factors that influence the dextrose tolerance test. Arch. Int. Med., 40:818, 1927.

27. Rabinowitch, I. M.: Experiences with a high carbohydrate-low calorie diet in the treatment of diabetes mellitus. Canad. M. Assn. J., 23:489, 1930.

28. Gray, P. A. and Sansum, W. D.: An unusual effect of a carbohydrate rich fat-poor diabetic diet; Report of a case. Endocrinology, 15:234, 1931.

29. Hamman, L. and Hirschman, I. I.: Studies on blood-sugar; Effects upon the blood sugar of the repeated ingestion of glucose. Bull. J. Hopk. Hosp., 30:306, 1919.

30. Greenwald, L., Gross, J., and Samet, J.: Nature of sugar in normal urine. J. Biol. Chem., 62:401, 1924.

31. Foster, G. L.: An interpretation of the blood sugar phenomenon following the ingestion of glucose. J. Biol. Chem., 55:303, 1923.

32. Lennox, W. G.: Stimulation of the sugar-regulating mechanism as shown by duplicate blood sugar curves. J. Biol. Chem., 73:237, 1927.

33. Sansum, W. D.: High carbohydrate diets. Colorado Med., 24:307, 1927.

34. Gray, H.: Lipoids in 1000 diabetic bloods, with special regard to prognosis. Am. J. M. Sci., 168:34, 1924.

35. Geyelin, H. R.: Diabetes mellitus (in Cecil-Textbook of Medicine.) N. Y. Saunders, 1930.

36. Geyelin, H. R.: Recent studies of diabetes in children. Atlantic M. J., 29:825, 1926.

37. McLester, J. S.: Nutrition and diet in health and disease. Phil. Saunders, 1927.

38. Atkinson, A. V.: The transformation of protein into fat and fat into carbohydrate in the body. J. Metabolic Res., 1:1565, 1922.

39. Allen, F. M.: Experimental studies in diabetes and acidosis: Fat intoxication. J. Metabolic Res., 3:797, 1923.

40. LeClerq, F. S.: Over-nutrition with fat and alcohol. J. Metabolic Res., 1:307, 1922.

41. Wilder, Boothby and Beeler: J. Biol. Chem., 51:311, 1922.

42. DuBois, F. et al.: Abst. 13th Int. Congress, 1929 (quot. by Rabinowitch).

43. Katsura, S.: Effect of small doses of carbohydrate on sugar tolerance. Deutsch. Arch. f. Klin. Med., 164:34-49, 1929.

44. Lusk, G.: Science of Nutrition, W. B. Saunders, 1928. Phil.

45. Adlersberg and Porges: Klin. Wochnsch., 5:1451, 1926. (quot. by Richardson).

46. Adlersberg and Porges: Klin. Wochnsch., 6:2371, 1927.

47. Peters and VanSlyke: Quantative clinical chemistry, Vol. 1, Williams and Wilkins, 1931.

48. Von Noorden, K. H.: New aspects of diabetes mellitus. Treat, 1912.

49. Allen, F. M.: History of the treatment of diabetes by diet. J. Am. Dietet. Assn. 6:1, 1930.

50. Beckman: Modern methods of treatment. Phil. Saunders, 1930.

DIET IN THE TREATMENT OF MIGRAINE*

J. S. D'ANTONI, M. D.†
NEW ORLEANS

In spite of the unsatisfactory state of our knowledge of migraine, there appears to have been definite advancement in recent years. The present communication represents an effort to summarize in brief form what appears to be the current ideas regarding classification.

The concept of migraine to most physicians is synonymous with "sick headache" in which there is no demonstrable organic cause. The sometimes striking characteristics which manifest themselves in this clinical disorder should have a tendency to prevent confusing diagnoses, and allow certain cases to be rightfully placed in the category of true migraine.

Migraine, as defined by Riley, is "a periodic (usually unilateral) incapacitating headache, culminating in nausea and in severe cases by vomiting." It is often preceded by visual disturbances, followed by sleep, and occuring against a background of relatively good health associated with a familial history of headache, convulsions, or other paroxysmal disorders.

Block states that the term hemicrania should not be used for migraine, as it is also applied to cranioschisis and is thus confusing.

The occurrence of this disorder in many individuals is characterized by a definite and often stereotyped onset and course, making it possible to arrange groups, each containing certain combinations of peculiar features. From these there can be isolated clinical sub-groups, the etiologic and therapeutic significance of which is suggestive.

1. *Simple Migraine.* This type is characterized by a unilateral headache (often bilateral) (Critchley), of varying severity, which is usually followed by nausea and occasionally vomiting. There may be warning prodromata, but rarely sequelae are noted, the patient being in a state of normal comfort a relatively short time after cessation of the headache.

2. *Ocular Type.* Here the main symptoms

*Read before the Orleans Parish Medical Society, April 23, 1934.

†From the Department of Medicine, Tulane University, School of Medicine.

are visual in nature. The attack will commence with a series of visual experiences of a positive nature (fortification, figures, zigzags) or of a negative character (scotomata, hemianopia).

These may be accompanied or followed by an illusory distortion of vision. The visual symptoms persist throughout the attack, dominating the picture; a state of ocular vertigo follows, often accompanied by pain in the head or in the eyeball. Vomiting usually does not occur.

Examination usually reveals uncorrected refractive errors and full correction will lead to marked relief.

3. *The Bilious Type.* A type will emerge where vomiting dominates the picture. Ocular disturbance is slight or absent; headache is present but not severe.

Vomiting is obstinate and may last for three or four days. Food is refused and collapse and loss of weight are often present toward the end of the attack.

The patient may complain of abdominal discomfort or pain and an icteroid tinge may be noted. Fever is at times noted.

Blitzen in a series of 32 cases of migraine found abdominal pain as the outstanding symptom. Laing in a review of 145 cases reports 83 per cent with a complaint of abdominal discomfort.

4. *The Cerebral Type.* A type of migraine in which intense headache without visual or bilious accompaniments may be isolated. Meningeal irritation might be suspected due to the restlessness, irritability, giddiness, and acute onset.

Attacks of this kind may be precipitated by sudden physical exertion or heat stroke. Cerebral lesions, especially prerupture stage of a cerebral aneurysm, must be differentiated.

5. *Menstrual Migraine.* A very common group is occupied by those cases of migraine in females beginning at puberty and occuring regularly with each succeeding period. Should a patient miss a period no migraine occurs. During pregnancy the migraine usually ceases, though vomiting may be excessive. At the menopause the migrainous symptoms are aggravated, but cease with the cessation of the climacteric.

6. *Allergic Migraine.* Without question, there are patients in whom migraine occurs in alternation wth attacks of asthma, urticaria or angioneurotic edema with a familial history of migraine, asthma, hay fever or hives.

Bayleat states that these cases were formerly diagnosed as "causes unknown," but when considered as allergic migraine and treated as such, fairly good results have ensued. The above group, however, is in the minority.

Therapy. Practically every known form of treatment has been tried by various clinicians in an attempt to remove the causative factors of migraine or to alleviate the symptoms.

Some of the more important of these have been:

1. Duodenal lavage therapy;
2. Endocrine therapy;
3. Drug therapy;
4. Non-specific protein therapy;
5. Psychoanalytic therapy, and
6. Surgical treatment.

Within recent years many investigators have held diet responsible for the manifestations of migraine. The proteins, carbohydrates, fats, and mineral salts have variously been impugned by authors.

Two major forms of dietary therapy have eminated and are the most widely used in the present day treatment:

1. General dietary restrictions.

Minot believes that a beneficial effect may be obtained in certain cases of migraine from a low carbohydrate diet, and that cases of atypical migraine are more apt to be benefited by diet, than cases of typical migraine.

Brown has shown in a series of 50 cases of certain migraine that, whatever the primary causes, diet played some part in producing symptoms of which the patient complained. Carbohydrates played the predominant role in the largest number of these cases.

Curtis and Brown have, on the assumption that all nitrogenous food, animal or vegetable contain a potential poison, eliminated from the diet, meat, fish, poultry, game and extracts such as soups and gravies made from them, eggs, milk, and cheese, fruits and fruit juices, coffee, tea, chocolate and alcohol, and among the vegetables, mushrooms and tomatoes.

A diet containing cereals, polished rice, butter, a few green vegetables, and toast is given

over a period of several weeks. Many patients show immediate improvement, but some are worse the first week. So soon as the headache is distinctly improved, the diet is amplified, at first with other vegetables and then by a small amount of meat; different articles of nitrogenous food are added from time to time until the offending foods have been ascertained.

Gerson has corroborated the above findings and claims similar successes.

Holzman following the theory that foods rich in proteins and carbohydrates produce an acid ash, has partially eliminated these foods in the diet and has noted an almost immediate improvement.

In contradistinction to the above, McLester states dietary restrictions are of no value except during the prodromal stages of the disorder.

Bayleat and Brittain by attacking the subject from purely allergic phenomenon, have devised the following method of testing for exciting factors:

The scratch method should first be used. All questionable reactions should be checked by the intradermal method. If only the scratch method is used, many proteins to which the patient is sensitive will not be found. An immediate reading should be made, but also a four and 24 hour reading, since delayed reactions are common. All of the foods to which a patient is found definitely sensitive should be removed from the diet, and if the patient does not become free of symptoms an elimination diet should be used.

2. The ketogenic diet, as introduced by Barborka, has given us a new form of dietary therapy, which so far has shown fairly uniform results.

In his own series of cases, 30 per cent were controlled by the method, and in 50 per cent the frequency and severity have been lessened. The diet consists of a large amount of fat and a minimal amount of protein and carbohydrate.

Ketone bodies (acetone, diacetic acid and beta-oxybutyric acid) are formed as intermediary products of the incomplete oxidation of fats when the amount of carbohydrate in the diet is eliminated. In other words, the ketogenic factor, or fatty acid derivatives of foods overbalance the antikegogenic factors or glucose derivatives of foods; the urinary findings (acetone and diacetic acid) affords a simple guide in determining if the diet is properly balanced.

Several factors are paramount and must be borne in mind if success is anticipated in the administration of this diet.

1. There must be education and willingness on the part of the patient in the construction of diets from the calculation.

2. To ascertain as closely as possible the exact caloric requirements of the patient.

3. A gradual transition to the high fat diet which if not carried out, may precipitate nausea and vomiting in the patient.

4. All food in the diet must be eaten. Caution of producing a deficiency disease must be guarded against. As a precaution ½ to 1 teaspoonful of brewers yeast is given daily.

Menninger has devised a rather simple formula, based on the ratio of grams of fat, to grams of carbohydrate. Protein is figured at one gram per kilogram of body weight. The initial diet is one with a fat carbohydrate ratio of three to one. This is increased as necessary to four to one, five to one, and so on—even as high as ten to one, depending on ketosis as determined by the urine tests for acetone and diacetic acid.

A sample calculation is given:

Patient, an adult, weight 70 kilograms, slight activity (in bed) beginning with a carbohydrate-fat ratio of 1 to 3:

1. Total caloric requirements equal 70 (kilo weight) times 30 (caloric requirements per kilo body weight for adult in bed) equals 2100 calories.

2. Protein equals 70 grams (1 gram for each kilogram body weight) which equals 280 calories to be derived from protein (4 calories per gram).

3. 2100 (total caloric requirement) (280 calories derived from protein) equals 1820 calories to be derived from fat and carbohydrate in a ratio of 3 grams fat to 1 gram carbohydrate.

4. The proportion thus:

X : 1820 : : 4 : 31.

X (equals calories of carbohydrate required) : 1820 (calories from 1 gram carbohydrate and fat together) : : 4 (calories from 1

gram carbohydrate) : 31 (calories from 1 gram carbohydrate and 3 grams fat.)

X equals 235 calories.

5. Grams of carbohydrate equal 235 divided by 4 (calories per gram of carbohydrate) equals 58.7.

6. Grams of fat equals 3 x carbohydrate (ratio of 3 to 1) equals 3 times 58.7 equals 176.1 grams of fat.

7. Thus total caloric requirement equals 2100 made up of carbohydrate 58.7 grams, protein, 70 grams, fat 176.1 grams.

As a rule it is necessary to increase the ratio between the fat and carbohydrate and on the following day after the institution of the above diet it is increased to 4 to 1. The ratio in step No. 4 then reads: 4 : 440 : : X : 1200. When it is increased to a 5 to 1 ratio, it will read: 4 : 49 : : X : 1200.

Schnable, reports a rather unsatisfactory series of 23 cases treated with a ketogenic diet, nine of his patients showing amelioration of symptoms.

COMMENT

Although new methods of treatment offer definite benefit to many patients, a thoroughly satisfactory treatment of migraine is yet to be evolved.

SUMMARY

Before any form of dietary measure is carried out, organic disease must be ruled out by a complete history, and physical examination. Of the dietary measures to be employed, the simplest, namely dietary restrictions, is advocated. Unless in capable hands, the scratch method of testing for offending foods is not recommended.

The ketogenic diet should be employed where the above has failed and should not be tried in ignorant or unwilling individuals.

REFERENCES

Barbarka, C. J.: Proc. Staff Meet. Mayo Clinic, 5:190, 1930.

Barbarka, C. H.: Collected papers Mayo Clinic, 22:1028, 1931.

Barbarka, C. J.: Texas State Jour. Med., 27:637, 1932.

Balyeat, R. M. and Brittain, F. L.: Am. J. Med. Sci., 180:212, 1930.

Balyeat, R. M.: Migraine Diagnosis and Treatment, J. B. Lippincott, 1933.

Blitzen, N. L. and Brams, W. A.: J. A. M. A., 86:675, 1926.

Block, E. B.: Tice Practice of Medicine, 10:381.

Brown: J. A. M. A., 77:1396, 1921.

Critchley, M. and Ferguson, F. R.: The Lancet, 1:123, 1933.

Curtis, and Brown, R.: Brit. Med. J., 155:156, 1925.

Gerson, M.: Wien. klin. Wchnschr., 45:744, 1932.

Holzman, M. B.: Delaware State Med. Jour., 5:212, 1933.

Laing, G. H.: Med. Clinic of N. A., 11:49, 1927.

McLester, J. S.: Nutrition and Diet in Health and Disease, Saunders Co., Philadelphia, 1927.

Menninger, W. C.: Jour. Kansas Med. Soc. 32:298, 1931.

Minot, G. R.: Med. Clinic of N. A., 7:715, 1923.

Riley, H. A.: Bull Neuro. Instit. N. Y., 2:429, 1932.

Schnable, T. G.: Ann. Int. Med., 2:341, 1928.

THE DIETARY TREATMENT OF AVITAMINOSIS*

SYDNEY JACOBS, M. D.†

NEW ORLEANS

It is generally assumed and taught that the avitaminoses are rarely encountered in this country. That the classical form of vitamin deficiency disease is not frequently encountered here must be admitted, although pellagra and rickets are only too prevalent in certain quarters. For the most part the manifestations of insufficient vitamin content of the diet are not those of the well-defined syndromes but are rather those of the poorly delineated states of health in which the symptoms and physical findings indicate some puzzling abnormalities not amenable to the forms of therapy usually administered. There is a steadily growing belief that many of the vague states associated with malnutrition really result from ingestion of inadequate amounts of the necessary food factors. Jeans and Zentmire[10] have recently demonstrated night-blindness in 21 per cent of a group of unselected Chicago school-children; the visual findings rapidly subsided when an adequate amount of the necessary fat-soluble vitamin A was included in the diet. Dalldorf[10] using a sensitive test for the presence of increased capillary fragility which is considered to be one of the earliest signs of scurvy, has reported similar results in a group of underweight children with none

---

*Read before the Orleans Parish Medical Society, April 23, 1934.

†From the Department of Medicine, Tulane University School of Medicine.

of the usual signs of scurvy. Certain authors have recently indicated that there is a close relationship between vitamin deficiency disease and obscure forms of peripheral neuritis, particularly those noted during pregnancy and alcoholism. Many such syndromes were partially or wholly resolved by the administration of a diet rich in all the known accessory food factors. McLester has likewise attracted attention to the frequency with which bizarre syndromes disappear after correction of an obviously defective diet.

These considerations justify a renewed interest in the determination of the presence or absence of vitamins in the average dietary. Eddy [18] commenting on a survey of 500 sample diets considered to be representative of the average Amrican diet, noted a marked deficiency in the vitamin B content. Other observers[3] have noted the changing food habits of the American people and have emphasized the decreasing consumption of meats and animal products with a corresponding increase in the per capita consumption of sugars and other carbohydrates. Hofrichter and Brossis[13] studied the dietary habits of 100 people receiving treatment for various diseases none of which was considered to be of dietary origin. Of these subjects, they found eighty to be ingesting a diet deficient in several respects and only one adequate in all the requirements. They failed to comment on the economic status of their patients, thereby rendering their conclusions vulnerable to the criticism that these poor diets were associated with inability to obtain better food. In this era of economic depression, there has already been noted an increased incidence of pellagra as reflected by the larger number of pellagrins in certain municipal institutions.

Unfortunately the brilliant researches in this phase of the field of nutrition have not been followed by the success which is their due. One of the principal reasons for this has been the general failure to appreciate the fact that the vitamin content of the diet must be considered on a quantitative basis; not only must all the necessary food factors be furnished but also they must be furnished in the necessary amounts. Particularly must these considerations be remembered when one is treating patients at an out-patient department; among such people, economic factors preclude the furnishing of a diet abundant in these essentials.

In the treatment of the vitamin deficiency diseases, one attempts to furnish a well-balanced food supply, perhaps over-balanced only to the extent of supplying additional quantities of those vitamins whose deficiencies are most obvious. It is highly probable that under the present circumstances in this country, it is rare to encounter the lack of a single vitamin in the dietary but much more common to find a partial deficiency of several of the important food factors. For this reason it is important that the diet contain all the required constituents presumed to assure a normal bodily economy. Largely for academic purposes, deficiency diseases are discussed as those of absence of one or another of the vitamins although a brief survey of the situation indicates the marked degree of overlapping.

Vitamin A[14] is found abundantly in butter, milk, eggs, and green and yellow vegetables. If there is no hepatic disease or other disturbance of the gastro-intestinal system, such a diet can be administered with subsidence of all symptoms within two months. There is no evidence that the normal gastro-intestinal tract fails to absorb vitamin A, but if oral administration is not feasible, the vitamin may be administered parenterally by injection of boiled codliver oil subcutaneously. Because of the promiscuous scattering of the vitamin in natural foods, one would suppose that deficiency of this vitamin would be rare; yet in Copenhagen, surrounded by the dairy industry of Denmark an outbreak of xerophthalmia during the last war was attributed to the heavy export of dairy products.

Vitamin B^2 is found abundantly in oats, wheat corn, wheat embryo, the outer layers of rice, rice polishings, red kidney beans and spinach; yeast constitutes an excellent source of this vitamin. Contrary to the popular belief, milk is a poor source of this vitamin.

The relatively high value of liver, heart and pig muscle is in contrast to the low value of beef muscle. The anorexia, prominent feature of vitamin B deficiency, responds magnificiently to administration of large quantities of this substance in the diet.

The citrus fruits,[14] the tomato and certain of the leafy vegetables constitute the best-known sources for vitamin C; in general, the leaves of vegetables contain more of the vitamin than do the stems and these in turn contain more than do the roots or tubers. The natural acidity of the tomato is an important factor in the preservation of the vitamin content during the process of canning. Milk obtained from stall-fed cows contains less of the vitamin than does milk obtained from cows on pasture. There is enough vitamin C in milk for the infant or younger child but not enough for the older child who requires proportionately a larger amount. One orange or tomato daily will protect the average adult against the manifestations of scurvy. Lemon juice contains a far greater amount of vitamin C than does lime juice.

Sherman has remarked that "naturally, but unfortunately, the concentration of attention upon enrichment of foods in vitamin D content by means of artificial irradiation has led most people to overlook the fact that many natural foods contain significant amounts of vitamin D." Cod liver oil still remains the most important natural source for vitamin D. Eggyolk is an excellent source; the vitamin content can be increased if the hen has been previously irradiated. Eggs can be boiled for as long as 20 minutes without destroying the vitamin D content. The irradiation of foods has widened the scope of the antirachitic diet.

Those foods richest in vitamin G content[4] are: dried ox liver, yeast which may be either dried or autoclaved, meat, milk solids, maize germ or endosperm and dried peas. Milk obtained from cows during winter feeding is potent in vitaman G content.

Barborka[17] has listed the following as protective foods which should be included in the daily diet: Milk, one pint; one egg; three large servings of vegetables one of which should be a leafy green vegetable; two servings of fruit one of which should be raw; one tablespoonful of butter; and one serving of meat, fish or fowl, about two ounces. It should be realized that this selected group of foods is only the basis of the diet and that the individual is to eat an otherwise well-rounded diet. If he ingests the requisite amounts of all the foods listed above, he may eat whatever else he desires without fear of developing avitaminosis.

When one is confronted with the treatment of a frank case of xeropthalmia, berberi, scurvy, pellagra, rickets or osteomalacia, the dietary implications are obvious. It is necessary to administer the appropriate vitamins in large quantities. Inasmuch as one rarely has to treat such frank cases among adults, a high vitamin diet should be administered whenever thre is the slightest suspicion that the symptoms may be related to ingestion of an insufficient amount of any or all of the vitamins. Our methods of diagnosis do not permit of any accurate differentiation among the border-line cases of deficiency disease. For all such cases, the table of protective foods should be utilized. Accepting these minimal amounts of vitamins required for the normal individual, one can adjust the diet for any known deficiency. If the deficiency is largely that of vitamin A, to the basic diet there should be added large quantities of codliver oil or an extra supply of butter, milk or eggs; if the deficiency is largely that of vitamin B one may add 15 grams of dried yeast as a temporary expedient until the patient is able to consume large quantities of the necessary foods; in vitamin C deficiencies one may add six ounces of lime, lemon or tomato juice; for vitamin D deficiencies, one adds codliver oil or viosterol or foods which have been previously irradiated.

Vitamin G deficiencies require considerably greater amount of effort, because of the complexity of their problems. Pellagra can be prevented only by seeing that the individual ingests an adequate diet the entire year. There is no particular advantage in discon-

tinuing any of the foods included in the dietary on which pellagra developed, since the object of treatment is to add the necessary foods. To the basal diet, there should be added at least one quart of milk daily as well as four ounces of fresh lean beef or liver. Pure dried yeast is an excellent addition to the diet but can seldom be continued for long periods because of the expense entailed. In the acute stages, it may not be possible to proceed with the entire list of protective foods as outlined above, but protein may be fed as broths, liver extract or meat juices until the impaired gastro-intestinal tract has improved sufficiently to permit the taking of solid food after which the schedule outlined above is followed. It must be emphasized that in addition to the content of vitamin G, the diet should be equivalent to not less than 3000 calories daily and that during the stage of liquid feedings, the caloric intake should not be slighted.

It is of utmost importance to remember that the various forms of avitaminosis, being rarely encountered in their classical form, should be treated by the administration of a diet rich in all the known vitamins. Such a diet can readily be formulated using the listed foods of Barborka as a basis. It is of equal importance to recall that this diet should be instituted without awaiting the signs and symptoms of the frank deficiency disease.

BIBLIOGRAPHY

1. Eusterman, G. B., and Wilbur, D. W.: Clinical features of vitamin A deficiency, J. A. M. A., 98:2054, 1932.

2. Cowgill, G. R.: Vitamin B in relation to the clinic, J. A. M. A., 98:2282, 1932.

3. Mendel, L. B.: The changing diet of the American people, J. A. M. A., 99:117, 1932.

4. Underhill, F. P.: Clinical aspects of vitamin G deficiency, J. A. M. A., 99:120, 1932.

5. Clouse, R. C.: Vitamin D, J. A. M. A., 99:301, 1932.

6. Evans, H. M.: Vitamin E, J. A. M. A., 99:469, 1932.

7. Strauss, W. B. and Castle, W. B.: The extrinsic (deficiency) factor in pernicious and related anemias, Lancet, 2:111, 1932.

8. Guthrie, J. B.: Achlorrhydria in pellagra, J. Trop. Med., 35:71, 1932.

9. Spies, T. D. and Payne, W.: A study of the etiological relational relationship between pellagra and pernicious anemia, J. Exp. Med.

10. Dalldorf, G.: A sensitive test for subclinical scurvy in man, Am. J. Dis. Child., 46:794, 1933.

11. Gothlin, G. F.: Outline of a method for the determination of the strength of the skin capillaries and the indirect estimation of the vitamin C standard, J. Lab. & Cli. Med., 18:484, 1933.

12. Hunt, L. W.: Changing conceptions in therapeutic diets, Northwest Med., 32:282, 1932.

13. Hofrichter, C. H. and Brossis, M.: Nutritional deficiencies, Northwest Med., 32:288, 1932.

14. Smith, A. H., Cowgill, G. B., Jackson, R. W., and Anderson, W. E.: The present status of our knowledge of the vitamins, Yale J. Biol. and Med., 5:235, 1933.

15. Hanke, M. T.: Diet as a factor in the control of gingivitis; and diet as a factor in control of dental caries; a report on nutritional studies at Mooseheart, Illinois, J. Dent. Res., 12:518, 1932.

16. Holmes, A. D., Piggot, M. G., Sawyer, W. A., and Comstock, L.: Vitamins and reduction of lost time in industry, Indust. Eng. Chem., 42:1058, 1932.

17. Barborka, C. J.: Relation of diet to health and disease, Med. Cl. N. A., 15:139, 1931.

18. Eddy, W. H.: The adult's need for vitamins, Med. J., and Rec., 135:227, 1932.

19. Jeans, P. C. and Zentmire, Z.: Method for determining vitamin deficiency, J. A. M. A., 102:892, 1934.

A CASE OF MULTIPLE BONE CYSTS ASSOCIATED WITH HYPERPARATHYROIDISM*

DUDLEY MARCUS STEWART, M. D.
NEW ORLEANS

Because of the great interest manifested by the medical profession in recent times in the skeletal effects of the hyperactivity of the parathyroid glands, the following case is reported for your consideration:

CASE REPORT

Mrs. H. A., forty-five years of age, was admitted to the Baptist Hospital August 12, 1932 to the service of Dr. Henry C. Magee (case No. 146-439) with a fracture of the right tibia in the middle third. The patient gave the following interesting history:

For the past six weeks she had noticed a small mass over the right tibial crest in the region of the present fracture, which was associated with some pain on prolonged standing or walking. This mass would become larger during the day, and would almost disappear following a night's recumbency. The mass was slightly tender and would diminish with massage. On the day prior to her admission to the hospital, the mass was so painful that she could scarcely walk. On the day of admission, she says that she fell, or rather that her right leg seemed suddenly to collapse under her weight.

The patient stated that she had lost fifteen pounds in weight in the last three months.

Past History: Scarlet fever when she was

*Read before the Orleans Parish Medical Society, January 22, 1934.

Fig. 1—Right—Skiagraph showing pathological fracture through bone cyst of the right tibia, August 12, 1932.
Fig. 2—Left—Roentgenogram of the left tibia made August 12, 1932 showing complete absence of pathological findings other than generalizes decalcification.

eighteen years old. Submucous resection ten years ago.

Menstrual History: Menses began at thirteen, regular twenty-five day type; three to four day habit. No cramps or discomfort associated with menstruation.

Marital History: Has been married for five years, and has had four miscarriages during the first three years. Dilatation and currettage following last miscarriage. Has not been pregnant since.

Family History: Mother 76 years old, and is in good health. Father died at thirty-six, of "nervous trouble". Eight other children are living and well.

Physical examination: The patient was a thin, white female, very nervous and apprehensive, and apparently in some pain. The skin was sallow and slightly moist .The teeth were prominent, and were of a peculiar chalky appearance. Patient said that her teeth had always been very soft and easily broken. They contained many filled cavities. Breath was foul. Gum margins were soft, and pus could be expressed. The throat was negative for pathological findings. There was no enlargement of the thyroid gland, and no masses could be palpated in the neck. The chest and abdomen were negative. There was a tumor mass on the anterior aspect of the right leg apparently attached to the tibial crest in the middle of the shaft which was firm and tender to the touch. This mass was about 10 cm. long, 4 cm. wide, and 3 cm. in elevation. The right leg was slightly bowed, the apex of the bowing being at the site of the tumor, and this extremity was slightly more than one-half inch shorter than the left.

Skiagraph No. 10064 revealed a pathological fracture of the right tibia through a bone cyst, the position being considered good. Views of the left tibia, fibula and femur were negative for bone pathology.

The Wassermann was negative. Blood calcium determination was 12.8 mgm., and phosphorus 3.45 mgm.

At the request of Dr. Magee, I saw this patient, and suggested a biopsy for the purpose of microscopical examination of the tissue contained in the cyst.

On August 15, 1932, under ethylene anesthesia, an incision and currettage of the cyst was done, and a plaster of Paris cast was applied. The Pathological Department reported that the tissue was from a giant cell tumor of bone. The patient was discharged from the Baptist Hospital on August 18, 1932, and on December 20, the cast was removed, and the patient was allowed to get about on crutches.

In January, 1933, the patient reported that she

Fig. 3—Condition of pathological fracture of right tibia, March 21, 1933 showing multilocular appearance of cyst and slight callus formation at site of old pathological fracture.

noticed a swelling at the side of the old fracture, followed by a generalized aching and throbbing of the entire leg. The pain had been severe for the past two months, and the mass was of greater temperature than the rest of the leg.

On March 21, 1933, she was admitted to the Touro Out-patient Clinic. The blood calcium at this time was 15.3 mgm., and phosphorus 2.77 mgm. The blood picture showed a slight anemia. She was admitted to the Orthopedic service of Dr. Edward S. Hatch for observation. At that time, the mass on the right tibia was slightly larger and more tender than before. She also complained of a local tenderness in the left tibia just below the tuberosity. The patient had been strictly adhering to a high calcium, high vitamin diet, and had been receiving ultra-violet irradiations. Skiagraph No. 1572 revealed that the skull was of normal thickness but there was some mottling which might be considered as evidence of a pathological condition.

Deep roentgen ray therapy was instituted over the right tibia April 13, 1933. A skiagraph of the left tibia at this time revealed a small cyst in the tibial head which was not evident in the roentgenogram made August 12, 1932.

The patient was discharged from the hospital, and was seen in the clinic, and deep therapy was continued until her readmission to Touro Infirmary on June 30, 1933 for a pathological fracture of the left tibia through the cyst which had been seen about two months before. There was also a fracture through a small cyst in the fibular head. Plaster splints were applied to both legs the following morning, since there had been some bending of the right tibia in this accident.

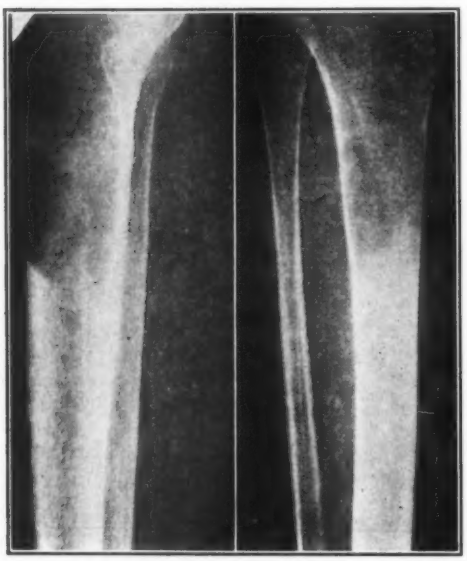

Fig. 4—Roentgenogram of the left tibia showing early cystic formation in the upper third. Made March 21, 1933.

Fig. 5—Right—Pathological fracture through bone cyst in the left tibia, June 30, 1933. There is also a fracture through a cyst in the fibula head.

Fig. 6—Left—Multilocular appearance of bone cyst of the right tibia and beginning evidence of giant cell appearance of the cyst.

Skiagraph No. 2741, July 3, 1933 revealed that the bone cyst in the middle third of the right tibia was still associated with considerable expansion of the cortex, making the cyst appear very much like a giant cell tumor. Some bone regeneration has occurred since the previous examination.

The patient was readmitted on August 10, 1933, when a consultation with Dr. Urban Maes was requested regarding the advisability of parathyroid exploration. This procedure was done by Dr. Maes on August 19, and a tumor mass, the size of an almond, was removed from the left upper pole of the thyroid. This mass was very much flattened, and was presumed to be an ademona of the parathyroid. Examination of stained sections of this tumor by Dr. John A. Lanford was reported to be made up of actively secreting parathyroid tissue suggesting hypertrophy and adenomatous formation. Prior to operation, the blood calcium was 15.7 mgm., and phosphorus 2.5 mgm. On August 24, 1933, the blood calcium dropped to 7.7 mgm., and the phosphorus remained at 2.77 mgm.

TABLE I.

	Date	Calcium	Phosphorus
Fract. right tibia	Aug. 12, 1932		
	Aug. 14, 1932	12.8	3.45
	Mar. 21, 1933	15.3	2.77
	Apr. 14, 1933	13.9	3.3
Fract. left tibia	Apr. 20, 1933		
	July 1, 1933	13.5	2.77
	Aug. 11, 1933	15.7	2.5
Parathyroidectomy	Aug. 19, 1933		
	Aug. 24, 1933	7.7	2.77
	Aug. 26, 1933	7.9	3.3
	Aug. 29, 1933	7.9	3.47
	Sept. 9, 1933	8.1	4.7
	Oct. 21, 1933	8.2	4.16

Oct. 31, 1933	8.4	3.9
Nov. 9, 1933	9.3	4.16

Table showing the variation in the Calcium-Phosphorus ratio and its relationship to the pathological fractures and the parathyroidectomy.

Following a gradual rise in both calcium and phosphorus, the patient was discharged after an uneventful recovery September 2. When the plaster splints were removed, the patient complained of a troublesome generalized itching, and of an inability to taste. There was also some disturbance of the tactile sense, but these symptoms disappeared in about three weeks. Since that time, the patient has been allowed to discard her crutches, as both fractures are apparently solidly united, and except for muscle atrophy and weakness due to the length of time she was in plaster, and which are gradually being overcome, she is in excellent condition. Several days ago, her blood calcium had risen to 10.7 mgm.

COMMENT

In consideration of the age of the patient, the absence of preformed cysts, the roentgenological appearance of cysts, the tissue evidence of giant cells, the failure of the condition to respond to deep therapy, the continued rise in the blood calcium, the failure of calcium therapy and its adjuncts, and the ready response to removal of an adenomatous parathyroid gland make this a most interesting case. It is possible that the suggestions of the most recent investigators that there is a rather close relationship between the giant cell tumors and the osteoses has been shown in this case.

DISCUSSION

Dr. I. I. Lemann: I have been very much interested in this type of disturbance since I saw a young boy some six or seven years ago, who incidentally was an infantile. He was actually about seventeen years old but looked like a boy of ten. He had bone changes like the patient of Dr. Stewart. Although we suspected parathyroid trouble, we were not able to find any tumor masses in the neck.

Fig. 7—Roentgenogram of the left tibia showing marked calcification of cyst, evidence of excellent callus. November 23, 1933.

Fig. 8—Skiagraph of the right tibia made November 23, 1933, showing evidence of possible transition of the cystic condition to that of a giant cell tumor, the bone is solidly united and the marked calcification is in distinct contrast to the atrophy of the entire tibia.

Last Spring, at the meeting of the Association of American Physicians, there was reported a most dramatic case of a man who finally died at about the age of fifty. This man had gone from great clinic to great clinic in this country; from Johns Hopkins to the great clinics of Boston and to the Mayos. He had had many fractures. The condition had been recognized as a dystrophy of the parathyroid glands. Explorations had been made of his neck and no tumor masses were found after several operations. The man continued to have not only these troubles of his bones, but had finally extensive nephritis because of calcium deposits in his kidneys, and finally insisted, since every place else had been explored, that a sternotomy be done. He felt sure the mass was there. When this was done, an aberrant parathyroid was found behind his sternum, a great mass of parathyroid tissue. If this had been recognized early enough, the man might have been cured. After the condition was recognized, it was too late; he died soon thereafter from extensive nephritis.

Dr. Dudley M. Stewart (In conclusion): Some of

the surgeons in other parts of the country have been doing parathyroidectomies for many conditions. This work, I believe, began with Oppel some years ago, who first did this removal of the parathyroid for hypertrophic arthritis of the spine.

I believe that unfortunately we are being a little over enthusiastic about this particular procedure and not choosing cases very carefully. This case was done only after careful consideration and study.

REPORT OF THE PASTEUR INSTITUTE OF THE CHARITY HOSPITAL OF NEW ORLEANS FOR THE YEAR 1933

RIGNEY D'AUNOY, M. D.†
and
JOHN H. CONNELL, M. D.†
NEW ORLEANS

During the year 1933, the Pasteur Institute of the Charity Hospital administered antirabic prophylactic treatment with material prepared as generally indicated by Semple.*

METHOD OF TREATMENT

Each injection consisted of a 2 mil portion of 4 per cent killed virus-emulsion, except in the case of children under three years of age, in whom a 1 mil portion of vaccine was injected at each treatment.

INJURIES BY PROVEN RABID ANIMALS

Head Injuries: Injections were made twice daily for the first seven days, and once daily thereafter for fourteen days.

Injuries to Trunk and Extremities: If multiple and severe, the same treatment was used as for head injuries.

If slight ,and treatment was begun within six days after injury, treatments were continued for fifteen days, with one injection daily.

If slight, and treatment was begun more than six days after injury, treatments were continued for eighteen days, with one injection daily.

INJURIES BY UNLOCATED ANIMALS

If the injury was received under suspicious circumstances, the same type of treatment was used as for a similar type of injury by proven rabid animals.

If there were no suspicious circumstances, treatment was given over a period of fourteen days, with one injection daily.

NO ACTUAL INJURY

If rabid or suspected animals had been handled, treatment was given over a period of eighteen days, with one injection daily.

TREATED CASES

Two hundred and seven cases were treated during 1933. They are classified as follows, according to the suggestion of the International Rabies Conference of the League of Nations, in order that the statistics of various institutions may be compared.

A. Cases in which the animal proved to be rabid (by microscopic or biologic test).

B. Cases in which the animal was diagnosed clinically as rabid.

C. Cases in which the animal was only suspected to be rabid (Stray, destroyed, or in such a condition when received that the brain was unfit for examination).

D. Cases in which the animal was alive and well after an observation period of three weeks, or whose brain was found to be negative when examined after the observation period.

E. Cases in which the patient received treatment without actually having been bitten (patients who handled rabid or suspected animals).

Table I records the number of treated cases in each category and classifies the types of injury.

LOCATION OF INJURY CATEGORY 1933

TABLE I

	A	B	C	D	E	Total
Head	3		6	1		10
Body	1		1			2
Superior Extremities	33	1	51	1	33	119
Inferior Extremities	21	1	44	3		69
Multiple sites			7			7
Total	58	2	109	5	33	207

Table II indicates the ages of the treated patients.

---

†From the Departments of Pathology and Bacteriology of the Louisiana State University Medical Center and the Charity Hospital, New Orleans.

*For the method of production of virus, see Report of the Pasteur Institute for 1931-1932, New Orleans Medical and Surgical Journal, Vol. 86, No. 4, pp. 236-238, October, 1933.

TABLE II

Age	WHITE Male	WHITE Female	COLORED Male	COLORED Female	Total
Under 1 year					
1-2 years	3	2	1		6
2-4 years	8	6	1		15
5-9 years	22	11	2		35
10-19 years	37	15	1	4	57
20-29 years	21	13	3	3	40
30-39 years	15	12	1	2	30
40-49 years	8	4		1	13
50-59 years	4	3			7
60-69 years	1	2			3
70-79 years					0
80 years and over	1				1
Total					207

Table III records the geopraphical distibution of the patients in Louisiana.

TABLE III

Assumption	1
Jefferson	49
La Fourche	4
Orleans	122
Plaquemine	5
Pointe Coupee	6
Rapides	1
Sabine	1
St. Bernard	1
St. Charles	5
St. James	4
St. John Baptist	3
St. Tammany	1
Tangipahoa	3
Vermillion	1
Total	207

Table IV gives the number of days elapsing between the time of injury or exposure and the beginning of treatment, when such information could be obtained.

TABLE IV

DAYS	PATIENTS
1	26
2	30
3	23
4	13
5	20
6	26
7	13
8	7
9	9
10	4
11	1
12	1
13	2
14	1
15	1
16	0
17	1
18	1
21	3
Total 41	183

Twenty-four patients merely handled dog; date uncertain.

Table V indicates the circumstances of the injury and the type of first aid treatment given in each case.

TABLE V

Injury inflicted through clothing	33
Injury inflicted to bare skin	141
Iodine applied to site of injury	5
No local treatment	87
Phenol, cauterization, and serum	60
Tetanus antitoxin only	97

UNTOWARD RESULTS

A white boy, ten years of age, was bitten by a rabid dog. Routine treatment, including twenty-one injections of virus, gave no protection, and the patient died, apparently from rabies, although no autopsy was performed.

This case will be reported in detail at a later date.

NEW ORLEANS
Medical and Surgical Journal
Established 1844

Published by the Louisiana State Medical Society under the jurisdiction of the following named Journal Committee:

Chailie Jamison, M. D., *Ex-Officio*
For one year: W. H. Seemann, M. D.,
Randolph Lyons, M. D., Secretary
For two years: John A. Lanford, M. D.
For three years: S. M. Blackshear, M. D.
H. W. Kostmayer, M. D., Chairman

EDITORIAL STAFF

John H. Musser, M. D.—*Editor-in-Chief*
Leon S. Lippincott, M. D.—*Editor*
Willard R. Wirth, M. D.—*Editor*
Frederick L. Fenno, M. D.—*Associate Editor*
Jacob S. Ullman, M. D.—*Associate Editor*
D. W. Jones, M. D.—*Associate Editor*

COLLABORATORS—COUNCILORS

For Louisiana	*For Mississippi*
H. E. Bernadas, M. D.	J. W. Lucas, M. D.
Daniel N. Silverman, M. D.	L. L. Minor, M. D.
C. C. DeGravelles, M. D.	M. W. Robertson, M. D.
M. D. Hargrove, M. D.	Thomas J. Brown, M. D.
J. B. Vaughan, M. D.	Willie H. Watson, M. D.
C. A. Lorio, M. D.	H. Lowry Rush, M. D.
C. A. Martin, M. D.	Jos. E. Green, M. D.
J. T. Cappel, M. D.	W. H. Frizell, M. D.
	D. J. Williams, M. D.

Paul T. Talbot, M. D.—*General Manager*

1430 Tulane Avenue

SUBSCRIPTION TERMS: $3.00 per year in advance, postage paid, for the United States; $3.50 per year for all foreign countries belonging to the Postal Union.

News material for publication should be received not later than the twentieth of the month preceding publication. Orders for reprints must be sent in duplicate when returning galley proof.

THE JOURNAL *does not hold itself responsible for statements made by any contributor.*

Manuscripts should be addressed to the Editor, 1430 Tulane Avenue, New Orleans, La.

THE POWER OF ORGANIZED MEDICINE

The recent modifications that have been made in House Bill Number 395 by the Judiciary A Committee of the House of Representatives have been obtained largely through the cohesive efforts of the medical profession, led by an energetic President and active Committee on Public Policy and Legislation of the State Medical Society, and the able Committee on State Medicine and Legislation of the Orleans Parish Medical Society. Through the efforts of these men the bill was so modified that the provision for pay beds, which the medical profession feels would be a tremendous detriment to their interest, has been deleted.

Although the fight against this House Bill, as originally proposed, was led by the men mentioned, the most invaluable assistance was rendered by a large number of other medical men representing Parish and Local Organizations throughout the State. Their large number precludes mentioning each one of the men who gave up his time to serve organized medicine. Were it possible, thanks should be given to each of these men individually. Particularly important was the help rendered by physicians actively in contact with State politics or holding State positions, and in spite of the fact that this House Bill was sponsored by the controlling element of the recent Legislature, nevertheless they felt that their profession and their friends in the profession should be served first and put such considerations ahead of selfish ones when it might have been to their advantage to support the original plans.

The rallying to the cause of organized medicine by physicians everywhere throughout the State, and the results obtained by their efforts, demonstrates most forcibly the latent power that is in organized medicine. When a proposal or plan is made which may be detrimental to the interest of the medical profession and as one man the profession feels that such is the case, then it may be aroused to assert its strength and power. It is an unfortunate commentary that it is only under very exceptional circumstances that such an occasion arises that unselfishness coordination can be obtained. Many a minor difficulty under which the profession practices might be done away with by united efforts of the profession, but often such improvements may be fought by a small group who were thinking only of their own interest, and that which should be accomplished is not done.

A SAGA OF MEDICINE

It is perhaps improper to use the word "saga" in describing contemporaneous events and results that have been obtained by an investigator

of apparently Scandanavian origin living in Minnesota. To the literal minded a saga is a medieval narrative of Scandanavian legend or history, but while the following story may not be medieval it deserves to become legendary and historic.

Working in a town of some 13,000 people in Minnesota and engaging general practice, with all that that implies, one of the outstanding contributions to American research and to American investigation several years ago was brought out by a small town physician. This had to do with the parathyroid hormone which was isolated by a physician, A. M. Hanson through his own initiative and through his own hard work. The isolation of this hormone antedated that of Collip by some months. This work alone was enough to bring fame to the discoverer, but now this same investigator has produced a thymus extract which exhibits a marked effect on the second, third, and subsequent generation of rats, but not the first generation. The extract given to the rats results in the females giving birth to young which are very much more mature and more advanced in size and development than those that are used as controls and have not received the extract. The results are truly remarkable when this extract is given to the experimental rat. Whether or not the thymus extract will have any practical value such as parathyroid extract has, is beside the question. It is the first time that thymus has been shown to be active or that an active extract has been produced from this gland.

It has been said that the future of scientific medicine is in the hands of the practitioner, that the important problems of medicine now have to do with the patient and with the continued observation of patients over a long period of time. This can not be done in the laboratory nor can it be done as a rule in the clinic. It is possible, however, for the general practitioner, in intimate contact with his patients and family over a long period of years, to do this. Nor can it be said that the practitioner can not do clinico-experimental work. Hanson's achievements show what can be done with a minimum equipment, with only spare time, and without extensive laboratory facilities that so many think are requisite for experimental work. All honor to this investigator!

ONE CAUSE OF EDEMA

Longcope,* in the Shattuck Lecture delivered at the meeting of the Massachusetts Medical Society this year, stresses the importance of disturbance in nutrition in producing the symptoms of edema. He calls attention to the fact that it has only been within the last comparatively few years that the plasma protein has been implicated in the production of this important symptom. He reviews the work that has been done by many investigators to prove this particular point, which essentially is that there is a disturbance of the balance between hydrostatic pressure within the blood vessels tending to force fluid from them into the tissue and the colloid osmotic pressure of the plasma, the latter helping to retain fluids within the blood vesels. When plasma protein falls below a certain level colloid osmotic pressure falls and fluid from the vessels enters the body tissues. There are outstanding examples of dropsical states, notably, when there is an inadequate intake of food, and protein, under exceptional circumstances as during war, when protein food is lacking or when the dietary of the inmates of jails is inadequate in protein.

Particularly important in this contribution is the demonstration that edema may develop in conditions which are not such outstanding ones as mentioned in the previous paragraph, which edema may be the result of either dietary deficiencies or the loss of protein through diarrhea or through the loss of considerable quantities in the urine. There are a host of conditions in which the factor of protein deficiency or loss may play a role in the mechanism of the production of edema. Longcope states that accessory factors such as ingestion of considerable amounts of sodium chloride and water, the upright position, and mild degree of congestive heart failure may bring on edema or exaggerate it, but that the underlying cause depends on the protein deficit. The edema can be relieved by feeding adequate or excessive amounts of protein. When this is done and the plasma protein figures return to normal, the edema may rapidly disappear.

***Longcope, Warfield T.: The importance of disturbances in nutrition in edematous states. New England Jour. Med., 210:1243, 1934.**

HOSPITAL STAFF TRANSACTIONS

HOTEL DIEU

The regular monthly meeting of the Hotel Dieu Staff was held June 18, 1934 at Hotel Dieu at 8 o'clock p. m. Dr. P. B. Salatich presided at the meeting, with Dr. Frank Chetta at the desk.

Dr. D. N. Silverman presented a very interesting paper "Atypical Amebic Colitis."

Dr. R. L. Gordon presented a case report, "Prostatecomy with Unusual Complications."

May 14, under ethylene anesthesia a supra-pubic cystotomy was performed. On May 16, almost a complete paralytic ileus developed. Gastric lavage, high flushes, pituitrin, and pitressin were administered and by May 18 it was overcome. May 20, he developed a cold with right sided pleurisy. On May 21, there were suspicions of pneumonia and Dr. Wirth was called in consultation to see the patient. May 23, patient was much better. June 4, went home from hospital to stay until time for his prostatectomy. On June 6 developed a sudden pain in right side without fever. Few days later expectorated old blood and necrotic lung tissue. This was evidently an embolus from a lung infarct. July 8, he was having urethral and bladder spasms. July 15, spasms were much better. Sept. 8, under spinal analgesia a supra-pubic prostatectomy was done. September 21, he was discharged from the hospital. January 20, 1933, he complained of slight leakage of the old supra-pubic wound. February 17, attempt at cystoscopy to determine the cause of the leakage but met an obstruction at the posterior urethra. February 27, he was dilated with 18F. He has had no further trouble to the present date.

Dr. H. T. Simon presented the high lights of the meeting of the American Orthopedic Association held at Rochester, N. Y.

Dr. L. Levy presented the case of a girl twelve years old who had never menstruated and who was taken with an acute surgical abdomen without rigidity in any one spot. The white blood count was 19,000, with high neutrophiles. The next morninig a McBurney inicision was made and upon opening the abdomen the peritoneum was found to be blue and blood exuded from the incision. The appendix was found to be chronically inflammed and was removed. A midline incision and exploration revealed that there was blood exuding from the fimbriated end of the tubes. 300 cc. of blood was strained and put it in an infusion apparatus and while Dr. J. E. Isaacson closed the abdomen, I gave the autotranfusion. This patient made an uneventful recovery. She had a damming back through the tubes instead of coming through the os uteri. The hymen was patulous. She had an infantile uterus which was not markedly enlarged, nor were there any fibromas. The ovaries were normal in all respects. This patient began to menstruate the morning of the operation.

Dr. J. Couret presented a very interesting paper "Acute Intestinal Obstruction."

MERCY HOSPITAL—SONIAT MEMORIAL

The meeting of the Mercy Hospital Staff held Thursday, June 21, was called to order by Dr. John Irwin.

The scientific program was then taken up, Dr. Cox presenting a case of stricture of the esophagus. The patient was unable to be present, but Dr. Cox had several x-rays which he demonstrated in this case. This case had a gastrostomy performed on it and a tube left in place after which the stricture was dilated by bougies being passed through in a retrograde manner. The bougies were increased in size up to that a 32 bougie be passed through. He stated that it was bad to treat these cases from above as there was a danger of rupturing into the mediastinum or causing a false opening elsewhere and could cause fatal results. Particularly this is so if there is a dilation at the point of stricture in the sac. Dr. Thomas discussed this case and stressed the same point that Dr. Cox had made, having had several cases with excellent results. Dr. Irwin stated he had one case in which he used a Tucker bougie with very satisfactory results. There being no further discussion, Dr. Cox closed this case with a few closing remarks.

Case 1. Pulmonary embolus; Gangrene of left leg; Thrombosis of right femoral artery; Chr. endocarditis.

This was a white female 60 years of age who came in with history of pain in abdomen of two weeks duration, pain over the heart, and irregular rhythm. After being in hospital for a period of time the patient complained of pain in the leg over the popliteal artery. This was followed by the limb becoming gangrenous and the patient subsequently expiring from a pulmonary embolism.

Case 2. Streptococcal meningitis; Acute otitis media.

Case 3. Hypernephroma of left adrenal with metastasis of inferior vena cava; Hepatic abscess; Chlolecystitis; Cholangitis.

The third case was one which was admitted on the fifth of May and died on the fourteenth. The patient had a pain in the right costal region, dyspnea, sub-normal temperature and nausea, blood count showing 10,000 total white cell count, 84 neutrophiles, which increased to 15,900 with 90 neutrophiles in a short time, temperature going up to

102, the icterus index being 18. An exploratory laparotomy was performed; the liver was found enlarged and the gall bladder was found congested, thickened. The Petzer catheter was left in the gall bladder. The patient became worse, eventually died, being markedly jaundiced before dying. An autopsy was obtained which showed a tumor of the left adrenal gland which was found to be carcinomatous in character showing extension along the renal vein into the vena cava, the middle right lobe of the liver and involving the gall bladder. The gall bladder was found infected. Dr. Maihles discussed this case briefly.

The meeting was then adjourned until the next monthly meeting which will occur in October.

Edwin L. Zander, M. D.,
Secretary.

HOUSTON HOSPITAL STAFF MEETING

The regular monthly staff meeting of the Houston Hospital of Houston, was held Thursday night, June 29, in the hospital building with about 30 doctors in attendance.

The meeting began with a delicious fresh catfish dinner served by the hospital nurses, during which time lovely musical numbers were rendered by Mr. Wesley Patch, accompanied at the piano by Mr. William Allen Tornwall.

Dr. E. F. Arnold of Belefontaine read a very interesting and helpful paper on "Summer Complaints of Children," which was thoroughly discussed by all doctors present, each going into his method of treatment and diet for the most common of these diseases—dysentery.

Dr. P. W. Rowland, Professor of Materia Medica and Pharmacology, School of Medicine, University of Mississippi, discussed the very important and interesting subject "Digitalis." He gave very valuable information as to the type of heart diseases needing this stimulant, its dosage, amount and time to be taken, its reaction on the patient and the results.

Eva Collins, Secretary.

VICKSBURG SANITARIUM STAFF MEETING

The regular monthly meeting of the staff of the Vicksburg Sanitarium was held on July 9 at 6:30 p. m. After the usual business of the staff and reports from the records department and analysis of the work of the hospital special case reports were presented:

(1) Appendicitis, Acute, with General Peritonitis.—Dr. A. Street. Discussed by Dr. G. C. Jarratt.

(2) Deficiency Diarrheas.—Dr. L. J. Clark. Discussed by Dr. G. M. Street.

(3) Fracture of the Neck of the Femur.—Dr. W. E. Johnston. Discussed by Dr. G. W. Gaines.

Special Reports: 1. Recent meeting of the American Medical Association at Cleveland, Ohio. —Dr. G. M. Street.

2. Demonstration of the Warwick Ionization Apparatus for the Treatment of Hay Fever.—Dr. E. H. Jones.

Three Minute Reports of the Literature of the month were given by Drs. A. Street and J. A. K. Birchett, Jr.

Selected radiographic studies were presented and discussed as follows: Fracture of the Neck of the Femur (2 cases); Apophysitis Calcanei (bilateral); Osteomyelities of Ulna; Arthritis of Wrist, Gonorrheal; Cholelithiasis.

The next meeting of the staff will be held August 10 at 6:30 p. m.

Abstract.—Appendicitis, Acute, with General Peritonitis (Two Cases.)—Dr. A. Street.

Case 1.—A white male, planter, aged 63 years was admitted to Vicksburg Sanitarium May 30, 1934. He first noted abdominal pain three days before admission. It was general in distribution. He took a cathartic and continued to work. Four hours before admission the pain became violent, worse in right lower abdominal quadrant, in right lumbar region, and with some radiation to right testicle. Hypodermic of ¼ gr. morphine had not relieved the pain. There was vomiting. The bowels had moved prior to the acute exacerbation of pain. Right pyelitis six years ago. Has had gonorrhea and has been treated for stricture of the urethra.

Physical Examination.—The patient is in severe pain, appears violently ill. Is well developed and well nourished. Blood pressure, systolic 130, diastolic 80, temperature 103°F., pulse 116; respiration 22. Aside from the abdomen the general physical examination shows nothing remarkable. The abdomen is very slightly distended, and is not rigid. There is marked abdominal tenderness, much more marked over the right lower quadrant. There is some right lumbar tenderness, no masses, tenderness demonstrated by sudden release of the pressure of the examining hand is very marked.

Laboratory Findings.—Blood: leukocytes 5,700; differential leukocyte count, small lymphocytes 15 per cent; large lymphocytes 3 per cent; polymorph. neutrophils, mature forms 55 per cent; band forms 27 per cent. Malaria, none found. Blood Wassermann, negative; Kline and Young test, doubtful; Kahn test, negative; Eagle flocculation test, negative.

Urinalysis.—Reaction slightly acid, cloudy, specific gravity 1.035, large trace albumin, sugar 0.71 per cent, slightest possible trace indican, rare finely granular casts, rare pus cells (1 per high power field); some leukocytes; numerous fresh red blood cells.

Some points in the past and present history were suggestive of trouble in the right kidney. Also the urine showed numerous red blood cells and few

pus cells. The total blood count of only 5,700 was confusing. However, the physical signs were so very strongly in favor of the diagnosis of acute appendicitis that immediate operation was done.

Operation.—This was done immediately after admission, gas-ether anesthesia. Weir type of McBurney incision. Much greenish yellow pus through the peritoneum, much edema of all tissues, including the muscles of the abdominal wall. There was no walling off of the pus. The appendix was high lateral, retrocaecal in position and covered by a veil. It was exposed and found to be gangrenous and perforated. The appendix was removed, stump ligated and not inverted. Pus was removed by suction. Twelve soft cigarette drains were placed, mostly to the side of the appendix, but two into the pelvis and two into the right lumbar gutter. This left very little closing to do, as the drains occupied most of the incision. As the patient began to awaken the respiratory tract was cleared out by giving inhalations of carbon dioxide and oxygen.

Post Operative Course.—Copious drainage from wound. 1,000 cc. of 5 per cent glucose in normal salt solution was given in vein twice daily and duodenal tube left in stomach, passed through nose. There was tympanites, which became serious on the third day and following administration of the evening intravenous glucose on this day 100 cc. of 10 per cent sodium chloride was allowed to run in the vein. This was followed by abdominal cramping and passing of gas by the colon tube. The following day there was a large soft stool. 50 cc. of 10 per cent sodium chloride was given in the vein and on the fourth, fifth and sixth day and by that time the abdomen was flat. Subsequent course was uneventful, and the patient was discharged from the hospital in good condition on the twenty-third day after operation.

Case 2. A white male, aged 44 years; occupation, construction foreman, was admitted to Sanitarium July 6, 1934. Onset began as epigastric cramping pain two days before admission. After a few hours this became more marked in the right abdomen. He took a cathartic at onset and had numerous loose stools. No nausea or vomiting, pain and prostration had rapidly increased up to time of admission. No stool for 12 hours.

Physical Examination. — Temperature 99.4°F., pulse 90, respiration 20, blood pressure, systolic 110, diastolic 66. The patient looks actually ill and complains of severe general abdominal pain. The physical findings were not important except for the abdomen. The abdomen is scaphoid; there is marked rigidity over entire abdomen. There is general abdominal tenderness, definitely more marked in right lower quadrant and the release sign is positive. No masses.

Laboratory Findings.—Blood: leukocytes 9,100, small lymphocytes 8 per cent, large lymphocytes 3 per cent monocytes 2 per cent polymorph. neutrophils mature forms 18 per cent band forms 69 per cent.

Urine.—Slightest possible trace albumin, sugar 0.5 per cent, acetone slight trace, rare fresh and abnormal blood cells.

It was felt that the diagnosis was acute peritonitis probably of appendiceal origin but possibly from a ruptured peptic ulcer.

Operation.—This was done immediately using exactly the same technic as in Case 1. If the diagnosis had proved to be ruptured ulcer an additional incision would have been made and in the upper abdomen. There was a large quantity of free fluid in the general peritoneal cavity, no localization. This fluid had a muddy grayish color and a sweet odor. The visceral peritoneum showed injection and edema. Fluid was removed by suction. The appendix was retrocaecal and gangrenous to such an extent that it was nothing more than a slough. The operation was completed as in Case 1 using the same type, number, and position of drains.

Post Operative.—The same post operative therapy was used. However, abdominal distention was serious on the second day, and 100 cc. of 10 per cent sodium chloride was given on the night of the second day. This was followed by abdominal cramping and passing of small quantities of gas.

Note—(July 13)—Sodium chloride 100 cc. 10 per cent was given intravenously on the third, fourth, fifth and sixth post operative days, in addition to 5 per cent glucose, duodenal tube to stomach and heat to the abdomen. The abdomen is now soft, and the patient is taking his nourishment by mouth and is in good condition.

Comment.—Case 1 was interesting because of the suggestion of kidney pathology in the history and urinalysis. The total blood count was not high in either case. In Case 1 the abdominal rigidity was absent. In Case 2 rigidity was so marked as to suggest perforated peptic ulcer. The apparent result obtained by giving 10 per cent sodium chloride in the vein supports the increasingly prevalent idea that in this method we have a really valuable means of stimulating intestinal muscular tone and peristalsis. The method of drainage is probably important. Enough soft rubber covered drainage material should be placed at the infected site of the appendix to keep the intestines away from that site, and the size of the mass of drainage material should be about the same when it passes through the abdominal wall as it is in the abdominal cavity.

Abstract.—Fractures of the Neck of the Femur. —Dr. W. E. Johnston.

Fractures of the neck of the femur have always

been, and probably always will be the most trying fractures the surgeon has to encounter. There are many reasons why these are perplexing problems. Being surrounded by such a mass of tissue and in such close relation to the pelvis, manipulation of the fragments is very difficult. Poor blood supply to this section of the femur makes healing slow. The fact that this type of fracture occurs most frequently in elderly individuals adds greatly to the danger of general systemic complications.

In a review of the literature of this subject it is very interesting to note that the American Text Book of Surgery written by Keen and White in 1892 devotes one half page to this most important condition. Their discussion of the subject is indeed interesting. Quoting briefly a few sentences: "It is most important in the case of the old and feeble, to guard against the danger to the life of the patient arising from the traumatism and the necessary confinement. Special attention must be given to securing comfort and good nourishment and the avoidanace of bed-sores." The principal methods of treatment were: traction by Buck's extension, Hodgens suspended splint and the immobilization by plaster of Paris spica. Reading the above statement and comparing them to the methods advocated through the past forty-two years, one will see that not much progress has been made during that period of time, although it is very obvious that surgeons realize the need for better methods of treatment.

Within the last few years, a method has been devised, which apparently will revolutionize the treatment of this form of fracture as well as other fractures of the femur and certain fractures of the pelvis. Dr. Roger Anderson of Seattle, Washington, deserves most of the credit, as he has devised a rather unique apparatus which enables one to use skeletal traction on the injured leg, while employing only the well leg for countertraction.

It is the purpose of this paper to give a preliminary report of the treatment of two recent cases of fracture of the neck of the femur using the method as described by Roger Anderson.

Case 1.—A white female aged 77 years, entered the Sanitarium on May 24, 1934, with the following history: The night before admission, she stepped from an automobile and slipped, falling to the ground. She was helped back into the car and taken home. Pain in the right hip became progressively worse. When she entered the Sanitarium she was in a state of shock. Any attempt to move her produced much pain referable to the right hip. An x-ray revealed a fracture of the neck of the right femur.

One week after admission she had shown but slight improvement. She was taken to the operating room and the well-leg spinit was applied. X-ray revealed almost perfect reduction. From that date her mental and physical condition became progressively worse, but in spite of this she was placed in a wheel-chair each day. Urinary incontinence added to the difficult problem, and in spite of constant care small bed sores developed. The cast on the well leg became softened with urine, which was replaced with very little difficulty.

On June 23, 1934 she was discharged from the hospital and sent home. There she was placed in the hands of her family physician, who recently reported that her mental condition was much improved, and she was improving rapidly. The bed sores had practically healed and she was moved and turned with very little discomfort.

Case 2. A white male, aged 67 years, entered the Sanitarium on June 7, 1934, with the history that on the day prior to admission he had fallen, injuring his right hip. X-ray revealed a fracture of the neck of the right femur. A few days after admission a well-leg apparatus was applied and reduction was excellent. He was placed in a wheel chair the following day and could be moved about freely with little discomfort. On June 26, he was discharged from the Sanitarium satisfied with the results.

Conclsions: These two cases of the fracture of the neck of the right femur afforded an excellent opportunity for the use of the well-leg type of traction. In the case of the elderly female any other type of treatment would have been most unsatisfactory and it can be said with little doubt that she would not have survived had it not been for the fact that this form of treatment afforded proper nursing care with maximum comfort.

THE OSCAR ALLEN TUMOR CLINIC
CHARITY HOSPITAL
NEW ORLEANS

The scientific meeting of March was called by Doctor J. T. Nix, Director. The essayist was Doctor Emmerich Von Haam, who presented the following:

USE OF THE ULTROPAQUE IN EXPERIMENTAL AND SURGICAL PATHOLOGY

Our present methods of tissue study and tissue diagnosis by means of stained microtome sections have two disadvantages for many clinical and experimental purposes: (1) the amount of time required to prepare the tissue for the microtome technic, and (2) the fact that only dead and chemically altered tissue can be studied. Both of these difficulties have been overcome by the introduction of the ultropaque (Leitz) into the microscopic technic.

The principle of the ultropaque is simple. Microscopic pictures of opaque objects are obtained by a

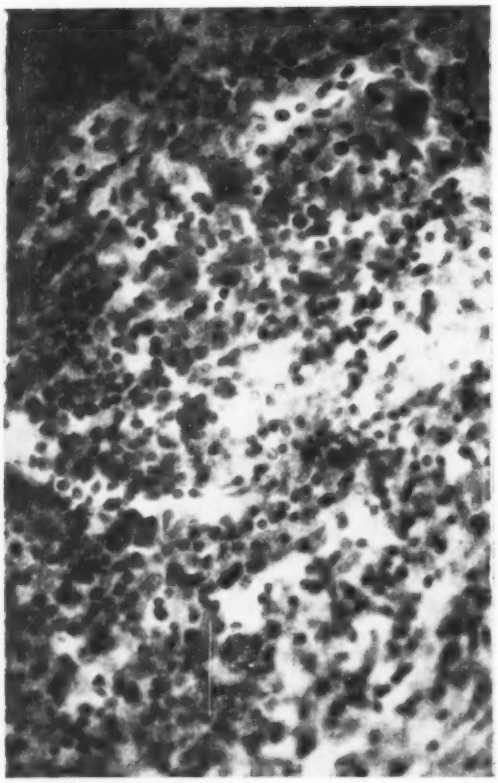

Fig. 1. Opaque tissue of lymph gland affected with Hodgkin's disease. Numerous typical giant cells can be seen. (Magn. 320x).

method of illumination with incident pencils of rays lying entirely outside the path of the microscope. In this way any reflections within the path of the rays of the microscope are eliminated and clear, distinct pictures are obtained with the different objectives.

The advantage of this method is evident. First, the microscope examination of opaque objects renders the use of the microtome superfluous, and second, microscopic structures can be studied in situ and in vivo. The first advantage is very valuable for rapid tissue diagnosis (Custer, Renaud[1]). The study of tissue structures in vivo opens a world of new possibilities in the biological sciences (Mehler and Pick[2]).

STAINING METHOD FOR FIXED TISSUES

The tissue is dropped for one minute into a boiling solution of 10 per cent formalin. The heat kills the cells and decolorizes the red blood cells; the formalin fixes and hardens the tissue. The combination of heat and formalin has proven to be the most rapid and most successful preparation of the opaque tissue for the different staining processes. The next step is to produce an even, smooth surface for the microscopic examination. This is best done with a sharp microtome knife or a razor blade. Bone and teeth are cut with a sharp saw and slightly polished with sandpaper after formalin fixation. The smooth surface is essential for the obtaining of an even picture and therefore great attention should be paid to this step. The third step consists in the staining process. Here different methods can be used. The nuclei can be stained with methylene blue, toluidin blue, thionin, carmine, or safranin; the cell plasma with eosin, fuchsin, or safranin. A combination of a nuclear stain with one per cent alcohol solution of toluidin blue with a plasma stain of one per cent watery solution of safranin gives the best microscopic picture which is very similar to the picture obtained with our standard hematoxylin-eosin method. Other staining methods which can be used on opaque tissues are the method of van Gieson for connective tissue with toluidin blue as a nuclear stain and Weigert's elastica method with safranin as a counter-stain. After some practice, all these stains give results which are similar to the pictures on paraffin or celloidin slides. After staining, the tissue surface is cleaned with a sharp ray of distilled water and is ready for examination.

STAINING METHOD FOR TISSUES IN THE LIVING ORGANISM

Visualization of the nuclei of the cells in the living organism can be produced with neutral red, methyl green, methylene blue, and toluidin blue. The best stain to produce a distinct picture of the nucleus of cells in the living organism is a solution of toluidin blue in physiological saline solution in a dilution of 1 to 1,000. The alcoholic soluton of this dye which is recommended for fixed tissues has a strong toxic effect and cannot be used. The staining fluid can be injected into the serous cavities of the anesthetized animal or can be dropped with a pipette upon the exposed tissue surface. The nuclei of the endothelial cells of the serous membranes, the blood and lymph capillaries and the nuclei of the fat cells will be sharply outlined in a few minutes, the nuclei of fibrous connective tissue, of smooth and striated muscle tissue will appear later. Pictures of the kidney cells and liver cells can be obtained with the same method and can be observed with the ultropaque through the cell layer of the capsule if a strong light is used. The described staining process is harmless for the animal which can be examined repeatedly without any ill effect.

EXAMINATION OF STAINED OPAQUE TISSUES WITH THE ULTROPAQUE

The opaque tissues stained with the above described methods can be examined with the ultropaque in all magnifications ranging from 25 times to 1,500 times. For magnifications hgher than 350 times water and oil immersion objectives must be

Fig. 2. Abdominal wall of rat stained and observed intra vitam. (Magn. 180x).

used. The picture obtained on fixed tissues is more distinct than the one obtained with the intravital stain. The histotopographic structures of the tissues as well as the single cells can be studied. The different types of white blood cells in the tissue can be easily distinguished and malignant cells can be differentated from normal cells. Any number of surfaces of an organ can be so examined without difficulty and in a short time. The possible extension of an experimental or clinical pathological lesion can be distinguished wth great precision and the correlation between macroscopic and microscopic pathology is greatly benefited by this method since the examined parts retain their macroscopic features.

CONCLUSION

The use of the ultropaque in the microscopic technic of clinical and experimental pathology can be regarded as a valuable method for the study of living and fixed opaque tissues.

BIBLIOGRAPHY

1. Custer, P. R.: J. of Lab. & Clin. Med.; 1933; 18, 644.
Renaud, M.: Bull. et mem. Soc. med. d. hop. de Paris; 1932; 49, 59.
2. Mehler, L. & Pick, G.: Anat. Anz.; 1932; 75, 234.

J. T. NIX CLINIC
NEW ORLEANS

At a meeting held in July Doctor J. A. Gaudet presented the following paper:

THE LEUKEMIA COMPLEX

Deeply niched, shrouded and outlined, blanketed beneath the mysteries of nature and her intricacies of disease manifestations, lies the leukemia complex. So was it that day of 1845 when Hughes Bennet, under the caption "Suppuration of the Blood," first focused attention to the condition; so was it a later day that same year when Rudolf Virchow, that vital and superanimated figure of pathology, described it with his virile pen and keen sense of observaton and coined for it its present terminology—leukemia, and so it is in this modern day of enlightenment. True it is, time and experience and the forward march of medicine have elucidated a wealth of pertinent material; still, the frank fact remains: The encrusting shell of basic understanding has barely been prodded and only incidents have been revealed.

The leukemia problem has had representation at the J. T. Nix Clinic. From our files of 18,749 cases presening for diagnosis, four of the leukemias which may be culled are of the chronic splenomyelogenous type, two of the chronic lymphoid type, and one of the acute lymphoid type. I propose to illustrate my subject with one each of these various types and to review some of the accumulated appertaining data.

Case 4480—*Chronic spleno-myelogenous leukemia.* December 11, 1923, a forty-five year old housewife of fair development consulted us relative to a feeling of general weakness of about two years duration and an insidiously enlarging non-painful lump in her abdomen which had been first noted about the same time.

On examination, the lump was made out to be her enlarged spleen. It presened a hard border extending a third across her abodmen and downward to midway between the umbilicus and iliac crest.

The patient was definitely luetic as evidenced by a positive blood "Wassermann," a history of a miscarriage and a systolic murmur at the base of the heart. Her blood cystology showed, unquestionably, the true status of her condition. The blood picture was as follows:

Total erythrocytes, 4,910,000—Hemoglobin, 70 per cent
Total leukocytes, 595,000—Color Index, .8 per cent

Small lymphocytes	10 per cent
Large mononuclears	2 per cent
Neutrophiles	46 per cent
Eosinophiles	0 per cent
Basophiles	4 per cent
N. myelocytes	34 per cent
E. myelocytes	1 per cent
B. myelocytes	3 per cent

The red cells exhibited moderate changes of a secondary anemia, and the excessive increase of

leukocytes was due, visibly, to an increase of cells of the myelocyte series.

Death two years later, December 26, 1925, blotted out the picture—four years after the onset of symptoms.

Case 15893—*Acute lymphatic leukemia.*

August 6, 1931, an ambulant, white, four year old child of fair development but whose skin was pale and sallow, complained of a swollen abdomen, noticed for the first time the week before. His family and past histories were irrelevant except possibly for two or three cramp attacks of no remark. The record of examination, abridged to include pathological findings only, follows:

The temperature was 99.8° F. and the pulse rate 120. The teeth were 75 per cent carious and the fundi of the eyes were anemic. The tonsils were moderately enlarged and the thymus decidedly so. There was a general cervical adenopathy; the glands were of red bean proportions. The inguinal glands were green pea sized. The spleen presented the superlative of gross changes; it was of enormous proportions, usurping fully three quarters of the abdomen and was stony hard to touch. Its lower edge extended to below the iliac crest and the right border three fingers to the left of the midline of the abdomen. The laboratory reported:

Total erythrocytes, 1,990,000—Hemoglobin, 45 per cent
Total leukocytes, 410,000—Color Index, 1.2 per cent
Lymphocytes ..... 90 per cent
Mononuclears ..... 1 per cent
Neutrophiles ..... 9 per cent

The lymphocytes were large immature peroxidase negative cells. The erythrocytes presented most of the changes of a violent secondary anemia.

Shortly the lad developed hemorrhages from various areas, was institutionalized and, despite all therapeutic efforts, passed away October 9, 1931—just about ninety days after the appearance of symptoms.

Case 15598—*Chronic lymphatic leukemia.*

April 4, 1932, a religious of good physique and sixty-five years of age presented himself at the Clinic. He complained of glands, first noted a month or so previous.

On examination, a general enlargement of the cervical, axillary and inguinal glands was found. Posterior to the left mastoid ran a chain of marble sized glands; they varied from bean to bantam egg size in both axillae, and in the groins, they were palpable, hard and discrete.

The liver extended two fingers below the costal arch, and the spleen was much enlarged and hard; it's lower border approximated a line to the umbilicus and its right edge extended three inches to the left of the midline of the abdomen. The prostate was 50 per cent enlarged. The laboratory reported a secondary anema of 4,760,000 erythrocytes, a hemoglobin of 60 per cent, and a color index of 1.6 per cent, 192,000 leukocyte per cu. mm. blood were counted—92 per cent of which were small, oxidase negative lymphocytes.

April 26, 1932 one of the cervical glands was removed for biopsy. The P D confirmed the chronic lymphoid leukemia diagnosis. Death occurred February 1, 1933—about ten months after consultation.

Discussion.—The early characterization of leukemia was as a blood dyscrasia which postulated a progressive and ultimately excessive increase of the circulating leukocytes. Today's conception of the condition is as a disorder of the hematopoietic system, a hyperplasia to the extreme degree of the blood forming organs, which is independent of the quantitative, though not qualitative, make-up of the circulating leukocytes, and the terminology "leukosis" has been suggested since it more correctly embraces the true nature, a myelosis and a lymphadenosis.

Miller rightly points out that the process is not one which always runs true to form. Atypical cases of unusual presentations crop up so that yesterday's manner of limiting the classification to narrow and iron clad boundaries is being superceded by a wider and more logical concept as the patient drill of knowledge bores deeper and deeper into the consultant factors.

However, the recognized tendencies are for the discase to align itself into an order as follows:

- Leukosis
  - Myelosis
    - Acute
      - Aleukemic
      - Leukemic
    - Chronic
      - Aleukemic
      - Leukemic
  - Lymphadenosis
    - Chronic
      - Aleukemic
      - Leukemic
    - Acute
      - Aleukemic
      - Leukemic

As an aid to the classification of the leukemias, there is the enzyme reaction introduced in 1906 by Schultze and expounded in 1925 by Piney to include cells of the myeloid series only. Granulocytes which are in, or have left, the premyelocyte stage show oxidase granules when stained according to Schultze or some modification of his method. Some workers base no great faith in these special enzyme stains and prefer the usual stains; these stress morphology above tinctorial character as, for instance, Panton and Valentine prefer Leishman's stain.

Accepting the doctrines of the polyphylectics or those of the trinitarian school who argue the individuality of three leukocyte elements,—namely, bone-marrow, lymphatic and reticulo endothelic—there must be another form of leukemia. In support of this idea, Reschad and Schilling in 1913 brought forth the first case of monocytic or histiocytic leukemia. In 1921, Rosenthal recorded mono-

cytic leukemia in a five year old lad, and in December, 1930, Dameshek added two cases of his own and culled twenty-six more from the literature—twenty-eight in all—sufficient, in his own opinion, to warrant the general acceptance of a third form of leukemia. Authorities, Nagaeli and adherents of the dualists dispute this; they bring forward argument to class these with the myeloses. Monocytic leukemia, according to them, is a variant of myeloid leukemia. Piney agrees, "the evidence seems to all in favor of the conception of monocytic leukemia belonging to the group of myeloses and not being a special form of leukoses depending upon the proliferation of the cells of a third hematopoietic system."

Since the days of Cohnheim leukemia without increase of the white cell count (aleukemia) has existed. Abt describes a case in a girl of five years and Crawford and Weiss present an adult case. In January, 1927 Jaffe presented two cases of aleukemic myelosis.

As to the transformation type of leukemia, namely that type which seems to change from lymphoid to myeloid, and vice-versus, Piney says there can be no doubt that those writers who have described these have failed to discriminate between myeloblastic and lymphoclastic elements. One of our cases presented large monocytic, apparently lymphoid, cells at one blood examination and definite myeloid cells at another; the diagnosis all the while was "chronic myeloid leukemia."

So classed mixed leukemia can be explained in a manner similar to transformation leukemia.

Remissions as in pernicious anemia are common, and recorded are many, some spontaneous, others secondary to some form of therapy. Simon mentions one induced by arsenic which in the course of one month dropped from 350,000 to 4,000 cells, and Dock's case treated by rays and in the face of a complicating infection showed an extreme fall to 470 cells. Two of our cases, after being irradiated, presented an extended leukocyte drop, 415,000 to 5,750 for a year more or less in one, and 92,000 to 6,000 for about a year in the other; in either case qualitative leukocyte changes were evident continuously. King culled sixty-four cases of chronic myelogenous leukemia from the records of Johns Hopkins Hospital, three of which were at some time aleukemic.

The diagnosis is not always simple. At one time the total white cell count was accepted as a basis for the differentiation of the hyperleukocytosis and the leukemias; 50,000 cells constituted the dividing line. That this was erroneous was rightfully soon noted. Krumbaar in 1926 quoted some counts which, if interpreted according to the elevated white cell count, alone might have been leukemic—one, a case of whooping cough, showed an absolute lymphocytosis of 176,000 with 66 per cent lymphocytes two weeks after the onset of an acute infection,—another, of hemorrhage and abortion, presented a leukoblastic hyperplasia as evidenced by a count of 106,000 and 25.5 per cent myelocytes. Definitely the diagnostic feature of the leukemic complex is not the quantitative but the qualitative character of the circulating leukocyte such as its age, its embryonic type and its morphological make-up. Relative to the diagnosis of aleukemia, Jaffe, terminating his presentation of two cases of aleukemic myelosis, concludes: "Thus the blood picture gives no information as to the extensive proliferation of the myeloid tissue."

The small lymphocyte is the predominant white cell of chronic lymphatic leukemia, although in six of the twenty-five cases collected by Panton and Valentine the large lymphocyte was in evidence and, strangely, in these the disease was less severe. Usually the small lymphocyte so dominates the blood smear as to appear monotonous to the microscopist, and the large lymphocyte is the predominating white cell of acute lymphatic leukemia. Piney says, "An increase of large lymphocytes and lymphoblasts occurs as the disease (chronic lymphatic leukemia) advances and is of evil significance as being indicative of an acute termination." The predominating white cell of myelogenous leukemia is, of course,, a myeloid cell of immature status. DiGuglielmo and other authorities give testimony that the more acute the leukemic process, the less mature and differentiated cellular forms appear.

An anemia variable with the degree of the affront is invariably present. In the early stages the anemia may be undeveloped but gradually sets in as the process runs on to its inevitable end. Many counts under one million erythrocytes per cu. mm. have been recorded and the stained film shows red cell changes usual to a secondary anemia. The color index is low in early cases, but increases to one and over one and the blood platelets are usually lowered.

Chronic lymphatic leukemia is the most common leukemia of the ageing adult. Holt considers it extremely uncommon in childhood, and of Osler's eighteen cases none occurred below the age of thirty-one years, and eighty per cent were over fifty-one years. Panton and Valentine record twenty-five cases in a sixteen year period at the London Hospital with an average age incidence of fifty-five years. Most of Minot and Isaac's eighty cases of chronic lymphatic leukemia occurred in the age decade of forty-five to fifty-five years, ten years later than that decade which bears the greatest incidence of chronic myeloid leukemia. Acute lymphoid leukemia, the most dreadful of the leukemias, is the most common of childhood. Death has followed in two weeks time, but most cases linger sixty or ninety days. The average duration of the chronic leukemias is three and a half years with extremes of six months and thirteen years,

and the man to woman ratio of those affected is 3:1.

Race, occupation, habitat and seasonal influence bear no relation to the disease. Trauma and hereditry have some relative part.

As to the etiology of leukemia, two theories are foremost in the minds of modern authoritative opinion, namely, the infectious theory and the neoplastic theory. The infectious theory is promulgated by many, and certain facts exist which, undenably, link it to the infections. On the other hand, leukemia as a neoplasm cannot be dismissed.

Pathologically, one finds a hyperplasia of the leukogenetic mechanisms. Gideon Wells states that chemistry yields no fact which tends to tell just what the process is. Nucleoprotein metabolism is increased as is evidenced by the appearance of the products of leukocyte disintegration, both in the blood and in the urine. Szilard from his own experience cannot give proof of an autotoxin active in the process but found the white cells with lowered resistance which explains their easy destruction.

The problem the complex offers awaits the solution of neoplasms in general.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

The Board of Directors of the Orleans Parish Medical Society, in response to the orders of the Society that they constitute themselves a special board to pass on all contracts or agreements between members of the Society and the employees of any business concern, sick benefits societies, insurance companies and the like, have been very busy passing on a large number of such contracts submitted by various members.

It is understood that the Judiciary Committee will shortly begin an investigation of those members of the Society who are known to hold contracts, but have not yet submitted them for sanction.

The State Medicine and Legislation Committee of the Orleans Parish Medical Society and the Public Policy and Legislation Committee of the Louisiana State Medical Society are to be congratulated on finally having the "pay beds" feature of the proposed new Charity Hospital eliminated. It is hoped that when the new hospital is built adequate provisions will be made for a division of the entire practice of medicine, from laboratory work to surgery, be made; which will enable the three groups of medical practitioners in the City to benefit fully from the magnificent new project. This has been promised by the medical men on the Board of Administrators of the Charity Hospital.

TREASURER'S REPORT

ACTUAL BOOK BALANCE: 5/31/34:	$1,361.20
June receipts:	$ 318.17
	$1,679.37
June expenditures:	$ 566.93
ACTUAL BOOK BALANCE: 6/30/34:	$1,112.44

LIBRARIAN'S REPORT

During May and June, 40 books have been added to the Library. Of these 15 were received by gift, 6 by binding, 1 by purchase and 18 from the New Orleans Medical and Surgical Journal. A notation of new titles of recent date is appended.

Members of the Library staff have collected material on the following subjects, on request of physicians, since our last report. These are, of course, in addition to the great majority of requests for material on subjects which can be furnished at once, and for particular titles.

Struma ovarii.
Acute pelvic infections.
Personal bibliography of E. C. Samuel.
Harmful effect of electric shock other than burns.
Effect of blood sugar of mother on fetus.
Sex determination.
Henry test for malaria.
Lead poisoning in children.
Ventral hernia.
Peastic repair of pendulous breast.
Atresia of esophagus.
Blood coagulation in infants.
Personal bibliography of O. W. Bethea.
Combination of exophthalmic goiter and cretinism.
Fracture of coccyx.
Oxgood-Schlatter's disease.
Chylous ascites.
Cardiovascular syphilis.
Skull-base injuries,—prognosis and mortality.
Progress of medicine and surgery in modern Italy.
Trichiniasis.
Eclampsia.
Breach presentation (Deventer).

NEW BOOKS
May and June

American Laryngological Association—Transactions. 1933.

American Laryngological, Rhinological and Otological Society—Transactions. 1933.

American Medical Association—New and Non-Official Remedies. 1934.

Ormsby, O. S.—Practical Treatise on Diseases of the Skin. 1934.

Wolfe, W. B.—Nervous Breakdown. 1933.

Bassler, Anthony—Intestinal Toxemia. 1930.

Noyes, A. P.—Modern Clinical Psychiatry. 1934.

Whitnall, S. E.—Study of Anatomy. 1933.

Barber, E. M.—What shall I eat? 1933.

Garland, Joseph—Road to Adolescence. 1934.

Jacobson, Edmund—You Must Relax. 1934.

Barker, L. F.—Treatment of the Commoner Diseases. 1934.

Gutierrez, Robert—Clinical Management of Horseshoe Kidney. 1934.

Gutman, Jacob — Modern Drug Encyclopedia. 1934.

Thomson, D.—Influenza. 1933.

Law, F. L.—Nasal Accessory Sinuses. 1933.

X—,Jacobus—Basis of Passional Psychology. n. d.

Kopp, M. E.—Birth Control in Practice. 1934.

Fowler, William—Municipal Ordinances and Regulations Pertaining to Public Health. 1928.

Watson, D. L.—Health of the Nation. 1932.

American Medical Association—Hospital Service in the U. S. 1934.

Foster M. Johns, M. D.,
Acting Secretary.

LOUISIANA STATE MEDICAL SOCIETY NEWS

A LETTER FROM THE PRESIDENT

As the titular head of the Louisiana State Medica Society I wish especially to thank the Committee on Public Policy and Legislation, as well as those physicians and members of our Society, who recently attended in large numbers and with enthusiasm the hearing of House Bill Number 395 before the Judiciary A Committee of the House of Representatives in Baton Rouge. I feel that your presence and influence illustrated forcibly the strength of organized medicine in the State. Any praise or thanks would be inadequate to those who left their work behind in order that they might serve organized medicine during such trying times. The work that you all did is certainly a credit to members of our profession, and shows definitely that the doctors of this State can be depended upon when called up in time of need.

Chaille Jamison, M. D.

TULANE CENTENNIAL CLINICS

October 24-25, 1934

The following tentative program has been arranged for medical alumni of Tulane University of Louisiana in conjunction with the Centennial celebration of the founding of the University to be held October 24-25, 1934. This program is likely to undergo some changes but it gives an indication of what will be presented to the physicians who have graduated from Tulane Medical School.

Each day the following program will be held:

9:00-10.00 a. m.

1. Ward Rounds—Charity Hospital.
   Touro Infirmary.
2. Demonstrations, Hutchinson Memorial Clinic.
   a. Preventive Medicine.
   b. Tropical Medicine and Parasitology.
   c. Roentgenology.
   d. Clinical Pathology.
   e. Medicine.
   f. Surgery.
3. Demonstrations, Richardson Memorial Building.
   a. Pathology and Bacteriology.
   b. Anatomy.
   c. Physiology.
   d. Pharmacology.
   e. Biochemistry.

10:00-12:00 Noon

Didactic Lectures, Hutchinson Memorial Auditorium—Eight lectures of twenty-five minutes each given in the two days to be divided as follows:

Medicine—2.
Surgery—2.
Obstetrics—1.
Tropical Medicine—1.
Gynecology—1.
Pediatrics—1.

1:30-4:30 p. m.

Dry Clinics.

1. Charity Hospital.
   Fifteen minute clinics, a total of 24 in two days, to be divided as follows:
   a. Medicine and specialties 8
   b. Surgery and specialties 8
   c. Pediatrics 2
   d. Obstetrics and gynecology 2
   e. Tropical Medicine 1
   f. Ophthalmology 1
   g. Otolarayngology 1
2. Touro Infirmary.
3. Eye, Ear, Nose and Throat Hospital.

4:30-5:30 p. m.

Tours of the Hutchinson Memorial Building.

Evening Events

On Thursday a banquet and smoker will be held for the medical graduates. At this banquet it is planned to have some prominent medical man, presumably a candidate for an honorary degree, to give the main address.

On Friday evening will be held the Centennial celebration in which all alumni of Tulane will participate. This will be a formal affair at which time among other things will be granting of honorary degrees and the address of the recipient of one of these degrees.

Saturday will be Homecominig Day to which all alumni are expected to come. Saturday morning will be free, Saturday afternoon will be the annual football game between Tulane and the University of Georgia.

It is earnestly hoped that all medical alumni of Tulane will make their arrangements at the present time to attend these demonstrations and clinics. The clinics, talks and demonstrations will be held in part by prominent alumni and in part by the teaching staff of the Medical School.

SECOND DISTRICT MEDICAL SOCIETY

The Second District Medical Society held its regular monthly meeting at Destrehan, La., where its members were entertained by Dr. J. S. Herrin.

Very interesting papers were read by Dr. Urban Maes "Early Diagnosis of Carcinoma of the Stomach", and by Dr. J. D. Rives "Extra-Gastric Dyspepsias". Dr. Andrew Friedrichs of New Orleans was also a guest. The regular members in attendance were Drs. Joseph Kopfler, J. S. Herrin, N. K. Edrington, L. T. Donaldson, Paul T. Landry, Earl Clayton, E. P. Feucht, William Guillot, J. S. Parker, P. A. Donaldson, Lionel Waguespack, Robert F. Sharp, and J. L. Smith.

At this meeting the following officers of the Society were elected: Dr. L. T. Donaldson, President; Dr. Etienne P. Feucht, Vice-President; Dr. Nicholas K. Edrington, Secretary-Treasurer.

Following the meeting a most delicious supper was served by Mrs. Herrin. The next regular meeting of the Society will be held on August 16, at the home of Dr. Earl Clayton on the Airline Highway at Norco, La.

VERNON PARISH MEDICAL SOCIETY

At a meeting on June 30, the Vernon Parish Medical Society was revived, and the following officers were elected: President, Dr. J. F. Smith, Leesville; Vice-President, Dr. W. T. Franklin, Anacoco; and Secretary-Treasurer, Dr. D. O. Willis, Leesville.

The following doctors, besides the above officers, comprise the organization: Drs. F. P. Jones, M. W. Talbot, Brown Word, W. E. Reid; all of Leesville; E E. Archibald, Alco; M. S. Stephens, Hornback; J. E. Johnson, Leander; C. M. McCain, Rosepine; and H. M. Burnham, Hutton.

AVOYELLES PARISH MEDICAL SOCIETY

The following resolution was passed in regular session held on June 20, 1934: That we disapprove House Bill 395 insofar as it relates to pay beds in State Charity Hospital, and we consider the amount $9,000,000 far in excess of the needs to rehabilitate the Charity Hospital of New Orleans.

A. L. Bordelon, M. D., President — S. J. Couvillon, M. D., Secretary-Treasurer.

NEWS ITEMS

During the first week in July Dr. H. W. Kostmayer, Dean and Professor of Gynecology in the Graduate School of Medicine of the Tulane University of Louisiana, attended a conference with representatives of the Commonwealth Fund held at their office in New York City.

Dr. Elizabeth Bass, of the faculty of the Graduate School of Medicine of The Tulane University of Louisiana, left the latter part of July to attend the Third Juinquennial Congress of the International Association of Medical Women to be held at Stockholm, Sweden, August 8-11, 1934, as a delegate of the Medical Women's National Association of the U. S. A.

Dr. Daniel N. Silverman of New Orleans has been made Assistant Professor of Clinical Medicine in the School of Medicine, Tulane University.

Passed Assistant Surgeon H. G. Foster was relieved from duty at New Orleans, La. and assigned to duty at Hot Springs, Ark. at the V. D. Clinic.

Mrs. (Dr.) Heenry O. Reik, 56 Sterling Avenue, Weehawken, New Jersey, is offering for physicians an editing service, whereby manuscripts for publication, or to be read at meetings, will be typed, edited, and put into a form which will be satisfactory to editors of medical journals.

DR. BETHEA HONORED

Dr. Oscar Bethea, Professor of Medicine and Clinical Medicine, Graduate and Under-Graduate Schools of the College of Medicine, Tulane University, has been signally honored by election to the office of President of the American Therapeutic Society, one of the outstanding national societies.

INFECTIOUS DISEASES IN LOUISIANA

For the week ending June 16, there were reported in double figures the following diseases: One hundred and twenty-four cases of measles, 101 of malaria, 40 of syphilis, 38 of pneumonia, 30 of cancer, 29 of gonorrhea, 27 of tuberculosis, 22 of

typhoid fever, 12 of diphtheria, and 10 of whooping cough. The typhoid fever cases were scattered throughout the State. One case of smallpox was reported from Webster Parish. The following week malaria led all other reportable diseases, there being 85 cases listed. Next came measles with 73 cases, followed by 41 cases of pneumonia, 36 of tuberculosis, 25 of typhoid fever, 24 of cancer, and 22 of syphilis. Seven cases of typhoid fever were reported from Jackson Parish, and one case of poliomyelitis from Lafayette Parish. There was a big jump in the cases of malaraia that were reported in the week ending June 30, 151 cases being reported. The other diseases in double figures were 91 cases of syphilis, 55 of gonorrhea, 46 of measles, 30 of typhoid fever, 28 of tuberculosis, 24 of pneumonia, 16 of cancer, 15 of diphtheria, 13 of hookworm. Ten of the cases of typhoid fever were reported from Lafayette Parish, and 6 from Lincoln Parish. One case of typhus fever was reported from Calcasieu Parish. The instance of malaria had dropped to 121 reported cases for the week ending July 7. Pulmonary tuberculosis had increased to 63, and pneumonia to 24 cases. The other diseases reported include 50 cases of measles, 38 of syphilis, 25 of cancer, 14 of whooping cough, 13 of diphtheria, and 11 cases each of gonorrhea, hookworm, and septicemia. Only 7 cases of typhoid fever were reported this week, while one case of undulant fever was listed from Iberia Parish.

HEALTH OF NEW ORLEANS

The Department of Commerce, Bureau of Census, reports that for the week ending June 16, there were 135 deaths in the City, divided 80 white and 55 colored. The death rate for the group as a whole was 14.6, for the whites 12.2, and for the colored 20.6 The infant mortality rate this week was 64. For the following week, ending June 23, the total deaths were almost the same as the week previous, there being one less in this week, giving a death rate of 14.5. Eighty-four of the deaths occurred in the white race and 50 in the negro population, giving a death rate for the two groups of 12.8 and 18.7 respectively. The infant mortality rate had increased to 108, and for the first time in many weeks the white infant mortality rate was higher than the negro. For the week ending June 30, there was quite an increase in the total deaths, 166 people died in New Orleans, 81 of whom were white and 85 colored. The high death rate, 18.0, was due to the increase in the rate in the colored population, it being 31.8 as contrasted with the white which was 12.4. The infant mortality rate was 83. For the week ending July 7, there was a sharp decline in the total deaths, only 129 New Orleanians succumbing in this week. Of these, 65 were in the white race, and 64 in the colored. The death rate for the three groups was 14.0, 9.9, and 23.9. The infant mortality rate was 76. The death rate for the first half of the year was slightly in excess of the corresponding weeks of 1933, in which year it was 15.6 as contrasted with the 1934 rate of 16.1.

HOSPITAL RATES IN NEW ORLEANS

According to a request of the House of Delegates made at the 1933 meeting of the State Society, the rates charged by the several New Orleans Hospitals are printed below.

DE PAUL SANITARIUM

Rates for patients are from $3.00 to $8.00 per day. This includes a daily visit from the physician, room and board, and ordinary medicine with treatment.

FRENCH HOSPITAL

Schedule of flat rates for surgical and obstetrical patients: Cash in advance.

4 to 8 bed ward rate, 7 days, $30.00. Each additional day at $2.50 for bed and routine nursing.

Semi-private rooms, 7 days, $40.00. Each additional day at $3.50 for bed and routine nursing.

What these rates include:

(a) Seven days in hospital.

(b) Regular meals and special diet.

(c) General nursing service.

(d) Attendance of resident medical staff.

(e) All ordinary medicines and surgical supplies.

(f) Laboratory fee.

(g) Operating room fee.

What is not included:

Charges for ambulance, X-ray, anesthetic, doctor's fee, special prescriptions, serums, private telephones, etc.

Gas anesthetic for minor cases, $2.50 to $5.00.

Gas anesthetic for major cases, $5.00 to $15.00.

Regular rates:

Ward, $2.50 per day.

Semi-private room, $3.50 and $4.00 per day.

Private room, $5.00, $6.00, and $7.50 per day.

HOTEL DIEU

Schedule of flat rates for surgical and obstetrical patients:

4 to 6 bed ward rate, 7 days, $35.00. Each additional day at $3.00 for bed and routine nursing.

Semi-private rooms, 7 days, $40.00. Each additional day at $4.00 for bed and routine nursing.

What these rates include:

(a) Seven days in hospital.

(b) Regular meals and special diet.

(c) General nursing service.

(d) Attendance of resident medical staff.

(e) All ordinary medicines and surgical supplies.

(f) Laboratory fee.
(g) Operating room fee.
What is not included:

Charges for ambulance, X-ray, anesthetic, doctor's fee, special prescriptions, serums, private telephone, etc.

Anesthetic for minor cases, $2.50 to $7.50.
Anesthetic for major cases, $7.50 to $15.00.
Wards, 4 to 6 bed, $3.00 per day.
Wards, 3 beds, $3.50 per day.
Semi-private rooms, $4.00 per day.
Private rooms, $5.00 to $10.00 per day.

ILLINOIS CENTRAL HOSPITAL

Private rooms, $5.00 and $6.00 per day.
Small wards, $4.00 per day.
General ward, $2.50 per day.
Operating room—Major operation, $10.00. Minor operation, $7.50.
Dressing room, $2.50.
Laboratory fee, $3.00.

MERCY HOSPITAL—SONIAT MEMORIAL

Schedule of flat rates for cash in advance only.
For major surgical cases:

5-6 bed ward rate, 10 days only, $40.00. Each additional day at $3.00 per day for bed and routine nursing.

3 bed ward rates, 10 days only, $55.00. Each additional day at $3.50 per day for bed and routine nursing.

2 bed ward rates, 10 days only, $55.00. Each additional day at $4.00 per day for bed and routine nursing.

$5.00 private room rate for 10 days only, $65.00. Each additional day at $5.00 per day for bed and routine nursing.

What these 10-day rates include:
(a) Ten days stay in hospital.
(b) Regular meals and special diet.
(c) General nursing service.
(d) Attendance of resident medical staff.
(e) All ordinary medicines and surgical supplies.
(f) Laboratory fee.
(g) Operating room fee.
What is not included:

Charges for ambulance, X-ray, anesthetic, doctor's fee, special prescriptions, serums, private telephone, etc.

These rates are for 10 days only. Thereafter all charges will be made at regular rate. Flat rates do not apply to cases less than 10 days in hospital, but no bill will be rendered for more than the flat rate for services as specified in flat rate schedule, for those staying less than 10 days.

Obstetrical Cases

6 bed ward rate, 7 days only, $32.50. Additional days at $2.50 per day for bed and routine nursing for mother and baby.

3 bed ward rate, 7 days only $40.00. Additional days at $3.50 per day for bed and routine nursing for mother and baby.

2 bed ward rates, 7 days only, $45.00. Additional days at $4.00 per day for bed and routine nursing for mother and baby.

$5.00 private room rate, 7 days only, $55.00. Additional days at $5.00 per day for bed and routine nursing for mother and baby.

NEW ORLEANS HOSPITAL AND DISPENSARY FOR WOMEN AND CHILDREN

Pay ward, $2.00 per day.
Laboratory fee, $3.00.
Operating room, $5.00.
Anesthesia, $5.00 to $10.00.
Free Ward:
Laboratory, $3.00 to $5.00.
Operating room, $5.00 to $10.00.

SOUTHERN BAPTIST HOSPITAL

Special Rates

To meet present economic conditions we offer the following flat rates, payable strictly cash in advance:

Major surgical cases, ten days, including room, diet, nursing, laboratory, operating room, routine medicines, and routine dressings:
Ward, $45.00.
Double room, $60.00.
Private room, $70.00.
Tonsil cases, one day, including all the above:
Ward, $7.50; double room, $9.00; private room, $12.50.

Obstetrical cases, seven days, including room, diet, nursing for mother and baby, delivery room, laboratory, pads and routine medicines:
Ward, $35.00.
Double room, $45.00.
Private room, $55.00.

These rates do not include ambulance, X-ray, etc., should such be required. They do not include doctor's professional fee, nor special prescriptions.

Extra Days—Days in addition to those specified above will be charged at regular rates.

Rates for major surgical cases apply only to normal cases for which the ordinary $15.00 operating room fee is applicable.

Rates cannot be prorated for periods less than specified above.

Rates do not apply to private rooms which cost more than $5.50 per day regularly.

Flat rates are cash in advance.

Regular rates for those who do not take advantage of the special rates are as follows:

Ward bed, $3.00 per day.

Double room, $4.50 per day.

Private room, $5.50 to $9.00 per day.

Laboratory charge for patients who remain in the hospital forty-eight hours or more is $6.50, which covers all laboratory charges during the entire stay of the patient. Operating room fee for minor is $3.00 to $10.00; major is $10.00 to $18.00; delivery room is $7.50; new born babies $1.00 per day.

TOURO INFIRMARY

Flat rates for major surgical cases

Semi-Priv't. Ward	10 days	Lab't'ry	Operat. Room	Total	Flat Rate
$3.00	$30.00	$4.50	$10.00	$44.50	$40.00
$3.50	35.00	4.50	10.00	49.50	45.00
D'ble Rooms					
$4.00	40.00	6.50	12.50	59.00	55.00
4.50	45.00	6.50	12.50	64.00	60.00
Priv't. Rooms					
$5.00	50.00	6.50	15.00	71.50	65.00
5.50	55.00	6.50	15.00	76.50	70.00

These rates are based on a 10-day stay in hospital. Extra days will be charged for at regular ward or room rates. Flat rates do not apply to cases in hospital less than 10 days but total bill in such cases for care specified shall not exceed the flat rate. Flat rates do not include such extras as ambulance, X-ray, etc., should such be required. They are inclusive of all ordinary services, however, e.g.: care of patient, laboratory fee, operating room charge, regular menu and special diets, attendance of resident medical staff, general nursing service, and all ordinary medicines, drugs and surgical dressings.

Rates above are for hospital care only. They apply to cases of major surgery only, i.e., operative cases for which the above operating room charges are applicable. Professional fees must be arranged by patient with attending physician. Higher priced accommodations are not covered by flat rates.

Flat rates for hospital maternity care:

A. 4-Bed Ward	M'h'r	Inf'n't	Lab.	Deliv. Room	Total	Deduction	Flat Rate
$3.50	24.50	7.00	4.50	5.00	41.00	6.00	35.00
B. D'ble Rooms							
$4.50	31.50	7.00	6.50	10.00	55.00	10.00	45.00
C. P'vt. Rooms							
$5.50	38.50	7.00	6.50	10.00	62.00	7.00	55.00

These rates are based on a 7-day stay in hospital. Extra days will be charged for at regular ward or room rates for mother and infant. Note that flat rate deductions, if applied against ward or room charge alone, bring the per diem charge for accommodation to:

A. $2.64 B. $3.06 C. $4.50

Flat rates for above types of accommodations do not apply to cases in hospital less than 7 days but total bill in such cases for care specified shall not exceed the flat rate. Flat rates do not include such extras as ambulance, X-ray, etc., should such be required. They are inclusive of all ordinary services however: care of mother, care of infant, laboratory fee, delivery room fee, regular menu diets, attendance of resident medical staff, general nursing service, and all ordinary medical and surgical dressings. Rates above are for hospital care only. Professional fees must be arranged by patient with attending physician. Higher priced accommodations are not covered by flat rates.

Flat rates for tonsillectomy hospital care:

Semi-private ward, ($3.00), $6.00.

Semi-private ward, ($3.50), $6.50.

Double room, ($4.00), $9.00.

Double room, ($4.50), $9.50.

Private room, ($5.00), $12.50.

Private room, ($5.50), $13.00.

Private room, ($6.00), $13.50.

Higher priced rooms:

Room rate plus $10.00 operating room fee.

The above schedule is based on a 24-hour stay in hospital. Extra days will be charged for at regular rates. Rates include use of operating room, general nursing service and routine urinalysis and coagulation tests.

Rates above are for hospital care only. Professional fees must be arranged by patient with attending physician.

FLINT-GOODRIDGE HOSPITAL

Day Charges:

Private rooms, $6.00.

Semi-private rooms, $4.00.

4-bed rooms, $3.50.

12 and 6-bed wards, $3.00.

Children, $1.50.

(Under 12 years of age and occupying cribs in Children's Ward.)

Laboratory Charges:

Flat fee, $4.50.

For persons paying $2.00 per day, $3.00.

For children paying $1.50 per day, $3.00.

Laboratory service available at reasonable rates for persons not confined to hospital.

Operating Room Charges:

Major operation, $10.00.

For persons paying $2.00 per day, $7.00.

Minor operation, $7.50.

For persons paying $2.00 per day, $5.00.

Dressing (all surgical cases), $2.50.

Cystoscopic examination, $2.50.

Tray for circumcision:

Without anesthetic, $2.50.

With anesthetic, $5.00.

Plaster of Paris Cast:

Not including spica, $4.75.

Spica Cast, $7.50.

WOMAN'S AUXILIARY TO LOUISIANA STATE MEDICAL SOCIETY

President—Mrs. T. H. Watkins, Drew Park Drive, Lake Charles.

President-elect—Mrs. Hermann B. Gessner, 119 Audubon Blvd., New Orleans.

Chairman Press and Publicity—Mrs. Robert T. Lucas, 535 Broadmoor Blvd., Shreveport.

OFFICERS WOMAN'S AUXILIARY ORLEANS PARISH MEDICAL SOCIETY 1934-1935

President—Mrs. Chaille Jamison.

President-elect—Mrs. Rogers Brewster.

1st Vice-President—Mrs. Jules Myron Davidson.

2nd Vice-President—Mrs. W. P. Gardiner.

3rd Vice-President—Mrs. Leon J. Menville.

4th Vice-President—Mrs. Lucien W. Alexander.

Recording Secretary—Mrs. C. Grenes Cole.

Corresponding Secretary—Mrs. Leonard E. Devron.

Treasurer—Mrs. Russel Stone.

Historian—Mrs. Alton Ochsner.

Parliamentarian—Mrs. Norman Applewhite.

Publicity Secretary—Mrs. George D. Feldner.

Immediate Past President—Mrs. Francis E. LeJeune.

Chairman of Social Group—Mrs. Roy B. Harrison.

Chairman Philanthropic Group—Mrs. A. L. Levin.

Chairman Educational Group—Mrs. John H. Musser.

ORLEANS PARISH NOTES

The new executives for Orleans are above. The royal mantle worn with such distinction by Mrs. LeJeune falls with singular grace upon the blonde perfection of Mrs. Jamison. With Dr. Jamison president of the State Medical and Mrs. Jamison guiding the destiny of the New Orleans Auxiliary we can safely surmise that one household in Louisiana is going to be fairly engrossed in organized medicine. Isn't that auspicious for convention? We can hardly wait to get down to New Orleans next April and enjoy the fruits of their labor.

FACE TO FACE

Now for some brass tacks. How many women read these Auxiliary pages? Please answer. We mean it. The Journal Committee gives us space in an important professional magazine, and we are just wondering if we justify this generosity. How can we best utilize our Auxiliary page? To find out, we shall have to have some answers to this editorial inquiry. What would you like to have in here? Please buy a post card for one penny if you do not care to write a letter and let us know what you like. If you have suggestions, send them on, we beg. Let us know at any rate whether you read this. Do you want to hear about the other Louisiana Auxiliaries? Do you want to know about their social activities, how they match up their slippers and candles and jewels and mints? Do you want to know how a committee went about doing its work as well as what the end result result amounts to? Would you like items about other states? Have you any favorite states? Or any pet activities? Is there some person you would like to have contribute? Or some cause you would have us espouse? What do you want? We are in no position to guarantee satisfaction and delight in each issue, but right now we are in the mood to promise you whatever you may want. Answer please.

Mrs. Robert T. Lucas,
Chairman of Publicity.

At a meeting of the St. Landry Parish Medical Society, called for the purpose of notifying the members of the demise of Dr. Sylvian B. Wolff at 11:00 P. M., June 13, 1934, the following resolution was unanimously adopted:

Whereas: It has pleased the Almighty to remove Dr. Sylvian B. Wolff from the sphere of his activities in the very flower of his manhood,

Resolved: That while bowing to the iniscrutable ways of Providence, imbued with a belief that there is a divine purpose that shapes all human ends, that nevertheless the severance of earthly ties that bind the human race to those they love and respect never fails to evoke regret at the sight of the "Vacant Chair:"

Resolved: That in Dr. Wolff, an ex-president of this body, the Society loses a learned diagnostician, an ethical and charitable practitioner, an affectionate and indulgent husband and father, a considerate and loyal friend, a useful, brave and outspoken citizen;

Further Resolved: That the condolences of the

Society be extended to the bereaved family, and that a copy of this resolution be spread on the minutes and furnished his family, his father, the press, and the organ of the State Medical Society.

(Sogned)
Dr. F. J. Mayer
Dr. E. Lafleur
Dr. E. J. Petitjean
Dr. G. R. Beridon
Dr. S. J. Rozas
Dr. L. L. Collins
Dr. L. J. Bienvenu
Dr. O. Bienvenu
Dr. W. R. Lastrapes
Dr. B. A. Littell.

Latham, Charles Eugene, Baton Rouge, La., Born 1884. Graduated from the Memphis Hospital Medical College in 1912. He was a member of the East Baton Rouge Parish Medical Society and the Louisiana State Medical Society. Dr. Latham died in Baton Rouge on July 7.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

SEND YOUR SUGGESTIONS

Doctor, if you have an idea on office arrangement, accounting, medical economics, or some little trick of treatment why not pass it on. The editors will welcome paragraphs of this sort. You may have an idea that you do not consider worth writing a paper about, but that may be of value to your colleagues. It may be that it could be written on a prescription blank. Send it to the editor. He'll do the rest.

ENGLISH AS SHE IS UNDERSTOOD

No names are mentioned in this out-burst.
There is nothing personal in this.

Those who listened in on the business of the House of Delegates just before adjournment at Natchez must have been struck by the widely varying ideas held by the Delegates taking part in the discussion in the matter of the relationship of the physicians and the FERA.

Each claimed to have read the thing through and except for the President and the Council there was no agreement in the matter.

WHO SAID ANYTHING ABOUT BREAKING UP THE BIG SOCIETIES?

It has been suggested, because the FERA will deal only with the Individual County Organization, because of varying conditions in different counties that the county units be organized for the purpose of looking after the political and economical matters of interest to the profession. The most critical person is challenged to find therein anything about breaking up the big societies. Let the big societies meet as often as they want, let them read and pay attention to scientific papers, let them eat all the fried chicken they can get and let them campaign among themselves if they so desire, regarding the instructions that are to be issued by the individual county societies to the delegates that the county societies elect.

The multi-county group is the logical unit for the discussion of scientific subjects, but the financal and economic interests of each county may differ to such an extent that it is impossible to formulate fee-bill for six counties, much less for thirteen or twenty counties.

A petition from a Yazoo County Medical Society to the Board of Supervisors of that county would be far more likely to receive its merited attention than would a petition on the same subject from the Central Medical Society. The politician is interested only in the opinion of his own constituents.

Keep your group society as long as you like and have them as big as you wish.

But don't neglect to apply for a Charter for an individual county society. It is necessary to professional life.

J. S. Ullman.

MISSISSIPPI STATE BOARD OF HEALTH

Miss Ora Maie Heathman, valued worker in the vital statistics office of the State Board of Health, was married on June 29 to Mr. Andrew Jackson Bright of Greensboro, North Carolina. Miss Heathman had been with the State Board of Health for fifteen years. They will make their home in Greensboro.

Beginning the second week in July the field tuberculosis diagnostic program will be launched. Mr. William D. Hickerson, who formerly did tuberculosis work in Tennessee, will be in charge as clinician. The first examinations will be made in Pike County. Those examined and roentgen rayed will be those who are daily in contact with open cases of tuberculosis, those who have had a tuberculosis patient to die within the last year, and suspicious cases. No person will be examined except on written request of the family physician, and physicians are asked not to request this service for patients who are amply able to pay for the chest examination and roentgenogram elsewhere.

It is desired that the physician be present when the examination is made. Also the report is made to him and he in turn takes the matter up with

the patient. Dr. Hickerson will give no advice to the patient unless requested to in writing by the physician. This is a service much needed in Mississippi and already words of commendation have been received from members of the medical profession. This is a service which the State Board of Health and the Sanatorium are glad to make available for the physicians.

During June, Mr. Paul N. Byrn, laboratory technician with the Murfreeboro, Tennessee hospital, spent one week visiting the State Board of Health Laboratory.

At the meeting of the State Board of Health, June 25, 26, and 27, the following physicians were licensed to practice medicine in Mississippi:

By reciprocity: Dr. Thomas Henry Blake, Jackson, from Tennessee; Dr. Arthur Edward Brown, Columbus, from Alabama; Dr. Hugh Barnett Cottrell, Indianola, from Louisiana; Dr. Edward Clay Edwards, Shelby, from Louisiana; Dr. Robert Carl Hill, York, from Louisiana; Dr. Hernard Evan Kane, Amory, from Oklahoma; Dr. Katherine McCormick, Jackson (to go to M. S. C. W., Columbus); from Louisiana; Dr. Albert Jefferson McIlwain, Merigold, from Tennessee; Dr. Lawrence Hort Prince, Kiln, from Wisconsin; Dr. William Kendrick Purks, Vicksburg, from Georgia; Dr. Karl Otto Stingily, Meridian, from Tennessee; Dr. William Pollock Warfield, Tunica, from Tennessee; Dr. Ambrose Milton Hall (col.) Jackson, from Tennessee.

By written examination: Dr. Robert H. Bostwick, Jr.; Dr. Louie T. Carl, Dr. Clinton V. Ervin, Dr. Harry H. Puryear, Dr. Robert M. Seawright, Dr. James R. Simms, Jr., Dr. Charles C. Thompson, Dr. Robert J. Criss, Jr., Dr. Jack Allen Atkinson, Dr. Seth Hugh Barron, Dr. Aubrey Vogel Beacham, Dr. Thomas Kyle Chandler, Jr., Dr. John Henry Dent, Dr. Joseph Sherman Edmondson, Dr. Roger Mayo Flynt, Dr. Harry Greenwell Fridge, Dr. William Colyn Golden, Dr. James Clifton Green, Dr. Robert Percy Hudson, Dr. Alfred Lustberg, Dr. Jessie Alpha MacDonald, Dr. Clarence Bernard Mayes, Dr. Edwin McLeod Meek, Dr. William Earl Noblin, Jr., Dr. Fred Monroe Sandifer, Jr., Dr. Robert Eugene Shands, Dr. Joe Patton Smith, Dr. George Gray Townsend.

Felix J. Underwood,
Executive Officer.

Jackson
July 11, 1934.

WM. H. AIKMAN

1859-1934

For eight years a sufferer of a Parkinsonian syndrome caused by an influenzal encephalitis, William H. Aikman succumbed to an attack of acute nephritis, of a week's duration, on June 30, 1934.

Dr. Aikman was born in Evansville, Ind., in 1859, the son of Wm. M. Aikman and Rachel Amazon Long. In his early childhood the family moved to New Orleans, where he was educated. He became a pharmacist and was employed as such both in New Orleans and in Natchez. He returned to New Orleans to take up the study of medicine at Tulane in 1884 and was graduated by that institution in 1885.

He began the practice of medicine at Laurel Hill, Adams County, Mississippi, immediately after his graduation. The following year he married Miss Josephine Balfour, of Natchez, and moved to Kansas City, Mo., to practice. His wife died there the next year and he then returned to Natchez, where he practiced until his health caused him to close his office about two years ago. In 1894 he married Miss Charlotte Balfour a younger sister of his first wife. There were no children by either marriage.

Dr. Aikman was one of the first to practice roentgenology in the state. From 1915 until the establishment of the full time county health unit in 1927, he served as county health officer.

He was a charter member of the old Adams County Medical Society and of the Homochitto Valley Medical Society and had served as president of each. He had been made an honorary member of the Mississippi State Medical Association, and was also a member of the American Medical Association. He was a member of Harmony Lodge, No. 1, F. and A. M. as well as of other fraternal organizations.

Dr. Aikman maintained a keen interest in matter relating to his profession even after he had retired from active practice. Ever a loyal friend and always the polished gentlemen, he is missed and mourned by his colleagues no less than by a host of former patients and lifelong friends.

The Mississippi State Medical Association and the Journal offer their sincere sympathy to Mrs. Aikman and all his relatives.

CENTRAL MEDICAL SOCIETY

The Central Medical Society held its monthly meeting at the Robt. E. Lee Hotel at 7 p. m., July 3. Preceding the scientific program the Society enjoyed a delightful buffet supper served on the Roof Garden to a large number of members and guests.

There were no papers. The program was devoted entirely to case reports with presentation of patients. The first report under the heading of Pediatrics was given by Dr. J. K. Bullock on "True Infantilism." The patient, a little boy, 12 years of age, full term, normal delivery, breast fed, very bright, mother and father very large, sister very large, brother two years older twice size of patient, tonsils removed early, very little illness, digestive system always good, very active,

never listless. This child gave the appearance of a much younger child. Heart examination showed slight systolic murmur. He was 46½ inches tall, weighed 46 pounds, pulse 115 to 120 while standing, urine, stool, Wassermann negative. True infantalism is a disease that retards children. It's cause is not known. The mind remains immature and they never mature in physical growth nor do they develop sexually at puberty. Various chronic conditions such as syphilis or injury to the sperm will cause infantalism. The family history in this case is entirely negative. The child was present at the meeting.

Second, Dr. R. W. Hall, presented three patients with blastomycosis and hydroia vacciniforme. (1) An Indian man with blastomycosis. Diagnosis is made by microscopic test. The disease starts as a nodule on the exposed surfaces. Until development of the nodule very little can be found out. After development of the nodule makes a crust and then diagnosis is easy. This is usually regarded as an incurable disease. However, this case is practically cured—there being only a few active spots left. (2) A little negro girl sensitive to sunshine. This case cannot be cured—all that can be done is to keep her out of the sun. Her case is purely allergic. (3) Middle aged man, large nodules on surface of skin, nodules get red then ulcers form. Scarring comes along the arms. Roentgen ray treatment is the best way to cure blastomycosis. The patients were reviewed by the Society.

Dr. W. F. Henderson presented a case report of a fungus infection of the lung. Patient, nurse, born and reared in this section of the country, works in government service in various sections of the country, was taken with chill while walking on street in New York City. Had pneumonia, thought she was well, roentgenogram of lungs made which showed the middle lung zone involved, had no fever, no loss of weight or any other signs of tuberculosis. Patient was taken off duty and was examined by some of the best doctors in the country. Temperature remained normal, no tachycardia, patient sent West. Several months ago the patient came under Dr. Henderson's observation for treatment. After studying the chest films a fungus infection was detected in the left lung. Just what type of fungus this is is not known. The patient was first given potassium iodide in very small doses. The chest must be watched very carefully while treatment is in progress. The patient was presented in person by Dr. Henderson.

Fourth, Dr. I. C. Huggins presented a negro man, 58 years old, farmer, good health until onset of present disease. Patient first had pains in right shoulder. Tonsils removed—got no better. Developed terrible pains in right side of chest. Nothing, including opum, gave relief. He was developing weakness and burning on right side of body, right leg was beginning to weaken. Wassermann test and all other tests were negative except the second lumbar vertabra was down. After studying this case it was decided that a probable diagnosis might be syringomyelia. However, several members of the Society were a little dubious of the diagnosis since the patient's mind was perfectly clear and he had no loss of speech. Suggestion was made to take roentgenograms of the spinal cord and elbow joints, then inject the cord with lipiodal and a more definite diagnosis can be made.

Fifth, Dr. Julius Crisler briefly discussed "Common Duct Obstruction" in which he laid special stress on patients that "just turn yellow". He spoke of several gall bladder cases treated practically the same way by the same doctor, some yielded to treatment and got perfectly well without operation. Others had to have surgery before recovery was complete. Always give the patient a chance to get well without surgery if possible.

Dr. J. M. Acker, Jr., new president of the State Insane Hospital, was put on the honorary mailing list of the Society, since for sentimental reasons he does not wish to change his membership from his present medical society.

A brief business session was held at which time several important matters came before the Society for discussion and approval.

There will be no meeting for the month of August.

L. W. Long,
Secretary.

Jackson,
July 9, 1934.

ISSAQUENA-SHARKEY-WARREN COUNTIES MEDICAL SOCIETY

The regular monthly meeting of the Issaquena-Sharkey-Warren Counties Medical Society was held at the Elks Club, Vicksburg, July 10. After a supper served at 7 p. m., the following program was presented:

(1) Headaches.—Dr. B. R. Burgoyne, Lake Providence, Louisiana (exchange essayist from the Tri-Parish Medical Society).

Discussed by Drs. A. Street, F. M. Smith, and H. H. Johnston. Dr. Burgoyne closed.

(2) Syphilis of Nose, Throat and Mouth.—Dr. H. H. Johnston.

Discussed by Drs. B. R. Burgoyne, W. K. Purks, and W. H. Parsons. Dr. Johnston closed.

(3) The Problem of Hemorrhage in Obstetric Practice.—Dr. R. A. Street, Jr.

Discussed by Drs. J. A. K. Birchett, Jr.; B. R. Burgoyne and J. D. West. Dr. Street closed.

The next meeting of the Society will be held at the Elks Club, Vicksburg on Tuesday, August 14, at 7 p. m. with the following program:

Dr. W. P. Robert, Vicksburg, Chairman.

(1) Clinical Case for Discussion and Diagnosis. —Arranged by the Chairman.

(2) Toxemias of Pregnancy.

Introduction by the Chairman.

Symptoms and Diagnosis: Wilson, F. M. Smith, Lewis, Herring.

Differential Diagnosis: Stribling, Sanderson, Knox, Haralson, Benton.

Etiology: G. M. Street, Pool, Jones, Goodman, Barrier.

Predisposing Causes: D. P. Street, Pettit, S. Johnston, Gaines.

Pathology: A. Street, Orendorf, H. H. Johnson, Few.

Prevention: Parsons, Jarraft, Ewing, Purks.

Treatment: Myers, Huey, Edwards, Birchett, Jr.

Complications: W. A. Smith, Martin, Hicks, Clark.

General Discussion.

Leon S. Lippincott,
Secretary.

Vicksburg,
July 10, 1934.

NORTHEAST MISSISSIPPI THIRTEEN COUNTIES MEDICAL SOCIETY

The second quarterly meeting of the Northeast Mississippi Thirteen Counties Medical Society was held at Greenwood Springs at 10 A. M., June 19, with the Monroe County doctors as hosts. The program included the following:

Meeting called to order.—Dr. J. M. Hood, president.

Invocation.

Reading and adoption of minutes of last meeting.

Papers and Discussions:

1. Gonococcal Conjunctivitis.Dr. H. F. Brewster, Columbus.

Discussion opened by Drs. Kane and R. B. Cunningham.

(2) Diarrheas in Infancy and Childhood with Special Reference to the Infection Type.—Dr. E. C. Mitchell, Memphis, Tenn.

Discussion opened by Drs. R. M. Boyd and W. L. Stalworth.

(3) Useful Methods of Treating Fracture of the Femur.—Dr. Stanley Hill, Corinth.

Discussion opened by Drs. Philpot and Kirk.

(4) Glaucoma.—Dr. H. J. Kellum, Tupelo.

Discussion opened by Drs. Armstrong and Staton.

Lunch was served at noon.

J. M. Acker, Jr.,
Secretary.

Aberdeen,
June 14, 1934.

NORTH MISSISSIPPI MEDICAL SOCIETY

The quarterly meeting of the North Mississippi Medical Society was held at Warren Lake near Waterford, June 27 at 2:30 p. m. A gala time was promised and enjoyed with fishing, swimming, boating and a Brunswick stew supper as features of the entertainment. The program included the following:

Invocation.

Business and minutes of last meeting.

Papers and Discussions:

(1) Diarrheas of Infancy and Childhood.—Dr. Eugene Rosamond, Memphis.

Discussion opened by Drs. J. M. Anderson and C. M. Murray.

(2) Uterine Displacement.—Dr. D. R. Moore, Byhalia.

Discussion opened by Drs. G. A. Brown and E. S. Bramlett.

(3) Management of Head Injuries.—Dr. R. E. Semmes, Memphis.

Discussion opened by Drs. S. E. Eason and E. L. Hooper.

Dr. Frank Ferrell, Ashland, president, presided.

A. H. Little,
Secretary.

Oxford,
July 11, 1934.

SOUTH MISSISSIPPI MEDICAL SOCIETY

The regular meeting of the South Mississippi Medical Society was held at the Forrest Hotel in Hattiesburg on June 14. The meeting was called to order by Dr. J. G. Gardner and immediately turned over to Dr. T. E. Ross, Jr., the new president, this being the meeting the officers took over their duties in the society. A very excellent program was presented as follows:

1. Gonoccal Conjunctivitis.—Dr. H. F. Brewster, New Orleans. Unfortunately Dr. Brewster could not be present but his paper was read by Dr. A. V. Beachman.

2. Perforated Appendix.—Dr. F. C. Shute, Jr., New Orleans. This was indeed a most excellent paper and was quite liberally discussed.

3. Gonorrhea in the Male.—This paper, presented by Dr. H. T. Beacham was also an excellent one and by one who knows his subject.

4. Hydronephrosis, Complicated by Diabetes Insipidus. An excellent case report most ably presented by Dr. H. G. Cook of Hattiesburg. Dr. Cook used roentgenograms and charts in his discussion of this rather unusual case.

All papers brought forth unusual interest, among the members present. This interest was evidenced by the abundance of discussions of all the papers.

Short talks at this meeting were given by Miss Willie Bolton and Dr. Blackwelder explaining welfare work being established in Hattiesburg for the underprivileged child. The members of this so-

ciety are always interested in constructive work and extend to this movement their sincere wishes for an unusual success.

It is with great pleasure we mention the appointment of Dr. H. C. McLeod as division surgeon for the Illinois Central Railroad.

This is the season when some turn their idle thoughts towards fishing. In fact we have several Isaac Waltons among us. We do, however, often feel that the reports of their trips are very liberally tempered by their enthusiasm. It is good recreation and they surely need it. Along this line I might add that the Hattiesburg Kiwanis held a meeting several weeks ago for the purpose of determining who could tell the biggest lie. Although the profession was well represented by members of this society the best they could achieve was second prize which was won by Dr. C. C. Buchanan of this city.

Franklin T. Bower,
Secretary.

Hattiesburg,
July 10, 1934.

ADAMS COUNTY

The death of our much beloved Dr. W. H. Aikman, which occured on June 30, cast a pall of sorrow over the community. Deepest sympathy is extended his devoted wife and widow, who leaves for Atlanta to spend an indefinite period, with her sister.

The Natchez Hospital has added to its staff for the summer the following: Dr. B. M. Drane, Port Gibson, Vanderbilt University; Dr. Owen Royce, Indianola, Tulane University; Dr. Fred Geisenberger, Natchez, Ole Miss University.

Dr. Loren Wallen is now located in the Dixon Building devoting his time to the treatment of "diseases of children."

Dr. A. R. Perry has assumed charge of the Adams County Health Unit. All join in welcoming him and best wishes for his success.

Dr. R. T. Smith is leaving Natchez and moving to Fort Smith, Arkansas. We regret seeing the doctor leave us, with his charming lady, as they have made many friends here, and proved so often such charming hosts at their lovely antebellum home, "D'Everaux." He was connected with the Chamberlain-Rice Clinic. We all join in wishing them success, and happiness in their new surroundings.

Lucien S. Gaudet,
County Editor.

Natchez,
July 9, 1934.

CHICKSAW COUNTY

In company with Dr. J. M. Hood, president of the Northeast Mississippi 13-Counties Medical Society, the writer attended the annual meeting at Greenwood Springs in Monroe County, which, as usual, was a very enjoyable occasion, made more so on account of the courtesy shown us by Dr. Ward of Aberdeen, who was master of ceremonies.

We also had the pleasure of meeting a number of prominent men from Memphis, Birmingham, and other towns, especially Dr. Nick Walker of Dyersburg, Tennessee, who is not only a prince of a gentleman but an eminent physician.

This meeting was also attended by the following doctors from our territory: Drs. J. R. Williams, V. B. Philpot, G. G. Armstrong, G. F. Darracott, and Douglas D. Baugh of Houston; F. L. McGahey of Calhoun City; Dr. E. K. Guinn of McCondy, and S. K. Gore of Mantee.

W. C. Walker,
County Editor.

Houlka,
July 8, 1934.

DESOTO COUNTY

Dr. Elwood Hunter Cox, who some three months ago located in his home town Eudora, has moved to Wilson, Ark. We all regret the doctor's departure.

Dr. M. B. Jernberg, formerly of Hollywood and later of Clack, has moved to Walls.

Dr. and Mrs. Charles Whitley Emerson of Hernando had the pleasure of a visit from Mrs. Emerson's parents, Dr. and Mrs. L. W. Dotson of West Point.

Dr. A. V. Richmond of Lake Cormorant has recovered from an illness and has resumed his work.

Sallie Starre and Lancelot, the children of Dr. and Mrs. L. L. Minor, have returned home after a pleasant visit of six weeks to Macon and Columbus.

L. L. Minor,
County Editor.

Memphis,
Route 4,
July 10, 1934.

FRANKLIN COUNTY

Mrs. Mullins, wife of Dr. Mullins of Bude, has been in a hospital in New Orleans recently but is now at home and is well on the road to recovery.

On June 1, this correspondent fell heir to a 30-day vacation, something he had not had in over 30 years. One week of this was spent in Birmingham, under the care of that brilliant son of the

South, Dr. Seale Harris. Later on, he visited with an old room-mate of Vanderbilt days, Dr. R. H. Smith of Palo Pinto, Texas, than whom, the great State of Texas has produced no finer doctor nor truer friend. The rest of the time was spent in fishing. On the whole, the month was greatly enjoyed.

S. R. Towns,
County Editor.

Quentin,
July 5, 1934.

HINDS COUNTY

The Central Medical Society held its regular meeting the evening of July 3, on the roof garden of the Robert E. Lee Hotel. There were many old familiar faces that had not been seen lately. The meeting was well attended and the cases presented were extremely interesting and instructive.

The staff of the Baptist Hospital held its meeting the third Tuesday in June. A good crowd enjoyed the usual good meal and program. There will be no more meetings of the staff until the third Tuesday evening in September.

The staff of the Jackson Infirmary held its regular meeting the second Tuesday of June. A fine chicken pie dinner was served and a good program enjoyed.

Dr. G. W. F. Rembert recently attended the meetings of the American Medical Association and the American Heart Association held in Cleveland, June 11 to 16. He reports a most profitable experience. Dr. Rembert was re-elected to the Board of Governors, for a term of three years, of the College of Physicians.

Wm. F. Hand,
County Editor.

Jackson,
July 6, 1934.

JACKSON COUNTY

The Jackson County Medical Society met jointly with the staff of the Jackson County Hospital, June 14. Several interesting cases were presented and discussed.

The Staff does not meet in July and August, hence the next regular monthly meeting will be held on the second Thursday of September.

Miss Dorothy Eley, daughter of Dr. and Mrs. R. C. Eley, Moss Point, was married June 6 to Mr. B. J. Jane of Vicksburg.

We are happy to report that Dr. J. N. Lockard, Pascagoula, is back in practice after a brief illness.

F. O. Schmidt,
County Editor.

Ocean Springs,
July 7, 1934.

JEFFERSON DAVIS COUNTY

Dr. L. M. Magee is recuperating nicely from an attack of appendicitis and operation at the Columbia Hospital.

Mrs. Terrell, wife of Dr. G. C. Terrell, and daughter Katherine have returned from an enjoyable trip to Washington, D. C. They made the trip by auto and report a fine trip.

Dr. G. C. Terrell, county health officer, and Mrs. Jonie Wilson, county health nurse, have been busy with immunigation campaigns against typhoid and diptheria. During the month of June they inoculated 1624 people against typhoid and 150 against diphtheria. They intend to cover the country intensively.

G. C. Terrell,
County Editor.

Prentiss,
June 7, 1934.

JONES COUNTY

Dr. J. D. Smith of Laurel was very seriously injured in an automobile accident near Houston, Texas where he was going with a relative to see a patient. He was reported doing better today.

R. H. Cranford,
County Editor.

Laurel,
June 1, 1934.

LAMAR COUNTY

Dr. E. V. Polk of Jackson and Mr. and Mrs. C. L. and J. A. Wood of San Antonio, Texas, are guests in the home of their parents, Dr. and Mrs. L. L. Polk; also Miss Mary Lyle Taylor of Corpus Christi, Texas. Mrs. Polk will return with them to Texas for an extended visit.

Mr. W. E. Polk, father of Dr. L. L. Polk, died May 4, 1934, aged 86 years; burial May 5, 1934.

In keeping with the government recreation program the city park is being improved as a playground, with tennis court, wading pool, swings, etc. Mrs. L. L. Polk, Rev. V. G. Clifford and Rev. D. A. Hogan are the committee in charge of work.

Mrs. L. L. Polk, Purvis, R. R. McNeese, Sumrall, and Mrs. L. W. Hinson, Lumberton, have been appointed by Governor Conner to act as trustees for the Lumberton Charity Hospital. There has been set aside $1,000.00 to the credit of the hospital for the year 1934 to be disbursed at the rate of $2.50 per day for each charity case taken in.

L. L. Polk,
County Editor.

Purvis,
July 9, 1934.

LEE COUNTY

Nice rains and cooler air and the Lee County doctors are feeling refreshed and ready to go at a moment's notice.

The county meeting which is the Tupelo Hospital staff and county meeting combined held the June meeting at the barbecue grounds at Fulton and we had a full attendance and all the chicken, goat, pig, sheep and calf that we could consume and the refreshments of the various kinds that suited the occasion best and the feast was enjoyed with the Fulton and Pontotoc doctors as guests. A scientific program was arranged but it was forgotten until we had adjourned and I think we will have the program at our next meeting.

I have to miss our East Mississippi 13 county meeting which met at Greenwood Springs and it was a great meeting and all had a good time, and enjoyed the program.

Our malarial troubles are growing and in all these years we have not had anything like we have now. It is growing serious and no let up and if we have any cures it may reoccur by a new infestation for most of the people seem to have it. I have had more than 200 cases in the month of June and not a year has equaled that mark for me in the years past. What can be done and how are some of my problems just now.

I found the Lee County doctors feeling very prosperous at our last meeting and I am just wondering if we had better have a Bar-B-Q every time we meet and keep the good spirit going. It will get a full attendance and all feel good and I advise the other county societies to try one.

Our Dr. Toomer is having to be around Jackson so much for the last few months he is more at home there than in Tupelo but when he is running the Ship-O-State it is going straight. A good man in a good place.

R. B. Caldwell,
County Editor.

Baldwin,
July 8, 1934.

LEFLORE COUNTY

Dr. and Mrs. W. E. Denman attended the graduation exercises at "Ole Miss," on June 4, to see W. E. Jr., receive his diploma.

Dr. and Mrs. L. H. Hightower of Itta Bena attended the M. S. C. W. Commencement to witness the graduation of their daughter, Sara.

Dr. and Mrs. T. B. Holloman of Itta Bena attended the Millsaps Commencement at Jackson, where their son Garland received his diploma.

Drs. Fred Sandifer, Tate Carl, and E. M. Meek went to Jackson June 25 to take the State Board examination, and were granted license to practice.

Dr. Sandifer will take his internship at the Charity Hospital, New Orleans, Dr. Tate Carl at General Hospital in Memphis, and Dr. E. M. Meek will go to the City Hospital at Baltimore, Md.

One June 18 Dr. C. N. Pate of Hot Springs, Ark., visited his sister Mrs. C. T. Womack of this city.

Dr. W. H. Frizell of Brookhaven, member of the State Board of Health, visited his daughter, Mrs. Herbert McShane, on June 24.

Dr. and Mrs. J. D. Rives of New Orleans, La were recent guests in the home of Mr. and Mrs. W. M. Garrard of this city.

Dr. and Mrs. G. H. Wood, Jr. and son, G. H. 3rd, of Big Springs, Texas, were recent visitors in the home of Mrs. Wood's parents, Mr. and Mrs. Harris Gray.

Dr. and Mrs. W. A. Burkhalter are entertaining in a family reunion this week with Mrs S. M Burkhalter and two sons, Sam, Jr. and Sev. of home of Mrs. Wood's parents, Mr. and Mrs. Harris Atlanta, Ga., and Mrs. Harry Diamond and sons Harry Jr., and Billy, of Boston, Mass., as guests.

Dr. R. B. Yates is leaving today for the Mississippi coast to spend a week.

Dr. and Mrs. W. B. Dickins have as their guests their daughter and two grandsons, Mrs. Pope McCorkle, Pope, Jr., and Billy, of Memphis, Tenn.

Dr. J. C. Adams and family have moved their residence to 600 W. Claiborne St. in North Greenwood.

Dr. and Mrs. S. L. Brister, Jr. have recently had as their guests, Mrs. Brister's brother, Mr. Birchfield, and his wife, from Tuscaloosa, Ala.

W. B. Dickins,
County Editor.

Greenwood,
July 6, 1934.

MONROE COUNTY

Hot weather does not stop the wheels of time—another month has passed. Much water has flown under the bridge since my last report from "up this way". On June 19 we met at Greenwood Springs. It was a fine meeting. Friends were there from all points of the compass; Dr. Harris and Dr. Gilbert Douglass from Birmingham—they brought with them Dr. W. M. Cunningham of Jasper, Alabama. Dr. Cunningham is president of the Alabama State Medical Association. Dr. E. C. Mitchell, Dr. Warr and Dr. Bodley of Memphis were with us too. Doctors from every bailiwick

in North Mississippi were there. Of course, our own members were there many of them accompanied by their wives and daughters. Don't you wish you had been there too? We wish you had been there. We asked you to come—I wonder why you did not? Greenwood is a fine place to go. The water cannot be beaten anywhere. The people who own and run the hotel know exactly how to serve their guests. The doctors of Monroe county will match any bunch on earth for hospitality Once each year we meet there to welcome our friends. Don't fail us next summer. We want you—we invite you—we expect you.

We are not having very much sickness in Monroe—but we have some more malaria than we should like to have. Bue even so there is a wonderful falling off from old times. We hate to report any, since we hope to be the first county in the state to present a "clean slate" with respect to this ancient foe. Typhoid fever is a thing of the past. But cancer, I regret to say, is still with us. This terrible malady is now the "captain of death." It should not be so. I believe we have been derelict in our duty. There is a cause for this trouble. When we discover its true cause we will soon learn how to cure and prevent it. Until we do learn the true cause we are idly beating the wind—simply wasting time devising pretty surgical methods of attack and trying to decide what the proper dosage of ray and radium are and how to administer this therapeutic measure. There has been quite enough talk and unintelligable language. I wonder if it is not time to do some thinking? Let us covenant together to attack this old problem, just as we attack those that are new. Let us not be longer hindered by tradition. Most that we think is true of cancer, I believe is tradition and superstition. When some man dares to think on this subject, let us not do as we have done, condemn him because his line of thought is not "orthodox". Away with orthodoxy—let us think. If every Mississippi doctor who can think would give thirty minutes of honest hard thought to this subject each day, I believe the problem would be solved before the end of this year of grace shall end. Friends wake up—get busy in the cause of humanity.

Douglass, the seventeen year old son of my splendid friend, Dr. B .C. Tubb, of Smithville, has been sick at Gilmore Sanitarium for three weeks. He has been desperately ill. He is better now, I am glad to say. He is the victim of osteomelitis. The right scapula is involved. I fear he has lost the use of his arm. He is, at this moment, being loaded onto the train to go to an orthopedist. What a tragedy! "Of all sad words of tongue or pen," etc. How I hope I may be able, when I write again, to make a more hopeful report of his condition.

The aged mother of Dr. W. N. Reed—the wife of Dr. Matt. Reed of Itawamba County, has been ill this week. I hear her condition is better than it was some days ago.

Crops are fine up here—I have never seen them better. Let us hope for better times.

I wonder if Dr. Lippincott is himself again? We all hope that he is. But Mrs. Lippincott, surely is a "pinch hitter" of the best kind.

My best wishes go out to all my friends—So long until we meet again.

G. S. Bryan,
County Editor.

Amory,
July 5, 1934.

PANOLA COUNTY

Have not heard of any of our physicians getting excited over either one of our coming elections.

Dr. A. J. McIlwain of Batesville and Miss Virginia McKinsey of Merigold were married June 6 and immediately took a trip to California. They expect to return to Batesville about July 10. All their friends wish them a happy and prosperous life. Dr. McIlwain is making many friends in his new home having lived in Batesville only a few months.

One of Panola's good physicians was in the pen several weeks before he heard about it. The "pen's" gain is Panola's loss, as Dr. B. H. Paslay of Como took the place of Parchman so ably filled by Dr. McDavid.

Little Miss Bess Wood of Batesville is visiting her brother, Dr. G. H. Woods, Jr. and family in Big Springs, Texas.

Dr. S. T. McIlwain, father of Dr. A. J. McIlwain, has also moved to Batesville and associated with his son in the practice of medicine.

G. H. Wood,
County Editor.

Batesville,
July 8, 1934.

PONTOTOC COUNTY

We had the pleasure of attending the staff meeting of Houston Hospital, Houston, Thursday night June 28. We had a very interesting program; a paper by Dr. Arnold of Bellefontaine on dysentery.

Dr. P. W. Rowland of Oxford gave us a very interesting paper on digitalis and its uses. The meeting of the Northeast Mississippi 13 County Medical Societies was held at Greenwood Springs, Monroe County, on June 19. Had a very interest-

ing program and a good attendance. The next meeting of this society will be held September 18 at Houlka, the home of our good friend, Dr. W. C. Walker. Everybody is invited to come.

We are having very little sickness in this county for the time of year.

Drs. R. D. Kirk, A. P. Dunavant, A. J. Stacy, R. W. Carruth have just returned from a fishing trip at Mossy lake. They report a fine trip and plenty of fish.

Pontotoc County Medical Society met in Pontotoc Tuesday, July 2, with ten members present. We have not missed a meeting this year, and always have a fairly good attendance.

Dr. C. D. Mitchell made us a pleasant visit a few days ago.

R. P. Donaldson,
County Editor.

Pontotoc,
July 7, 1934.

SUNFLOWER COUNTY

Dr. F. M. Tindall has moved from Sunflower to Indianola where he has been very cordially welcomed and is doing a good practice.

Dr. W. J. Lusk of Ruleville has gone to California for an extended vacation. We are very glad to know that some of the doctors of Sunflower County are making lots of money and taking California vacations.

Sunflower County was very unfortunate this month in losing Dr. H. B. Cottrell as health officer. Dr. Cottrell has moved to Lucedale, where he will be engaged in hookworm work for the State Board of Health during the next few months.

Dr. N. C. Knight returned on July 1 from Johns Hopkins where he has been for the last nine months taking post graduate work. He has resumed his position as county health officer. He reports that Johns Hopkins is good but Mississippi is better.

N. C. Knight,
County Editor.

Indianola,
July 10, 1934.

TALLAHATCHIE COUNTY

The writer and Dr. J. E. Powell attended a luncheon and meeting of the district medical society at Grenada, July 5. The Grenada Clinic served a most delightful luncheon which was enjoyed by about 20 physicians and a number of ladies of the auxiliary of the medical society.

The Tallahatchie County Medical Society met at the writer's hospital Friday evening at 8 o'clock where a delightful dinner was served by Mrs. J. E. Powell and Mrs. J. W. Moody assisted by the nurses of the hospital. Outside of a number of the members Drs. Hill and Caruthers of Grenada, Rev. and Mrs. A. B. Palsgrove were guests. A very enjoyable social hour followed the dinner. The next meeting place will be at Summer, August 3. We are always delighted to have visitors from other counties.

The writer enjoyed a week's vacation recently. Two days were spent at the fair in Chicago where he was greatly delighted with the many interesting exhibitions and amusements. Leaving Chicago he journeyed to Detroit where he went as a delegate to the Rotary International Convention. Five days were spent at the convention which were very profitable and pleasant. Courtesy cars about six hundred in number were furnished with chauffeurs, by the Ford, General Motors and Chrysler Corporations to carry the 15,000 Rotarians and Rotary Anns any place desired. About 60 counties were represented at the meeting. The convention goes to Mexico City next year.

Dr. J. E. Powell made a business trip to Calhoun City July 4.

Dr. and Mrs. J. E. Powell were visited by their daughter of Memphis on Sunday, July 1.

Dr. and Mrs. D. G. Bardwell of Charleston had Mrs. Drinklin, Mrs. Bardwell's sister, from Oklahoma, for several weeks' visit. Mrs. Bardwell spent some time in Oklahoma visiting Dr. Neely, her brother, and other relatives. Miss Elizabeth Bardwell is attending summer school at the University of Missouri.

Mrs. J. W. Moody leaves on July 17 for a two week's tour on the "Know Mississippi Better" train. The tour will be through Texas to El Paso into Old Mexico up the coast of California across to Salt Lake City, Denver, Colorado Springs, and many other points of interest.

Dr. and Mrs. A. C. Harrison of Charleston entertained a number of friends and relatives July 3 in honor of Mr. Ben Saunders, brother of Mrs. Harrison who was celebrating his 68th birthday.

Dr. and Mrs. Moody accompanied Rev. and Mrs. A. B. Pelsgrove to Clarksdale Monday evening to hear Gipsy Smith who is holding a three weeks' revival in Clarksdale.

J. W. Moody.

Charleston,
July 10, 1934.

WARREN COUNTY

Dr. Sydney W. Johnston, and son, Dr. Walter E. Johnston, were the only representatives of the profession of Vicksburg who attended last month the meeting of the Central Medical Society held at the spacious, hospitable home of Dr. Neal at Clin-

ten. Anyway, the profession was well represented for even Dr. Sydney courteously acknowledges the complimentary reference to himself as the "Budweiser" of Vicksburg. (You know what made Milwaukee famous.) A fish-fry, etc., followed the medical session and the Drs. Johnston report a "corking" good time and heartily acclaim "good food, spiced with laughter, eaten with contentment, digested at ease, turns sour visage into sweet; bad health into good."

The Vicksburg Sanitarium held its monthly staff meeting June 9. It has been a long while since their faithful secretary, Dr. Leon S. Lippincott, was absent from one of these staff meetings, but on account of sickness he was not present on this occasion. There were 10 doctors present.

Dr. Richard A. Street, who has been away for some time on a leave of absence from the Vicksburg Sanitarium taking special work in obstetrics at the University of Chicago, has returned to resume his work at the Sanitarium. We are advised that he and his accomplished young wife will reside in that institution.

Vicksburg Hospital held its monthly staff meeting Thursday, June 14. There were nine doctors in attendance. An interesting discussion of hospital cases and deaths opened their program which was followed by several scientific papers read by members of the staff. A tasteful luncheon was served.

Dr. Charles Michael Kent, of Kennedy, Texas, spent a short while this month (June) in Vicksburg with friends and relatives. He was enroute to his old home in Montgomery County, Mississippi. Dr. Kent is another Kilmicheal, Montgomery County, Mississippi product. He received his B. S. degree from the University of Mississippi, his M. D. degree from Tulane University, then heeding Horace Greeley's advice to young men, he "Went West" and from what we can gather he there found "fame and fortune." It gives us a great "thrill" to see the old boys who have "homesteaded" in a foreign land occasionally return to the scenes of our mutual childhood of the yesterday years.

On July 7, the Vicksburg Infirmary held its monthly staff meeting. Interesting reports and discussions were presented. The attendance was good, there being a total of eleven doctors, staff members and visiting doctors present.

Dr. Hollis B. Wilson presents us with a letter written him by D. A. Woodhouse, secretary and treasurer of the Blizzard Men of 1888. Dr. Wilson was at that time a student in a New York medical school and went through the experiences of this unusual blizzard of 1888. Nature struck so ferociously in this great freeze and storm that most heroic service was necessary on the part of brave and heroic men to save life and property of the unfortunate. Therefore, those men who contributed any part in the experiences of this great catastrophe banded together and frequently held reunions and styled themselves the Blizzard Men of 1888.

Dr. H. T. Ims,
County Editor.

Vicksburg,
July 9, 1934.

WASHINGTON COUNTY

Dr. D. C. Montgomery of Greenville, made a hurried trip recently to St. Louis on business.

Dr. A. G. Payne of Greenville, who has been confined to his home for several weeks on account of a recent illness, is able to be out again much to the delight of his many patients and friends.

Miss Ethel Payne of Jackson has been a visitor for several weeks in the home of her parents, Dr. and Mrs. A. G. Payne of Greenville.

Dr. and Mrs. J. K. Jones of Lepanto, Ark., have moved to Greenville. Dr. Jones has charge of Dr. F. M. Acree's office during Dr. Acree's three months post-graduate work in Berlin, Germany. Greenville and Washington County extend to Dr. and Mrs. Jones a most cordial welcome, and trust that they will make Greenville their permanent home.

Dr. D. C. Montgomery, Greenville, motored to Hot Springs, Ark. to bring home his family, Mrs. Montgomery and three sons, Cameron Jr., John and Bill. Mrs. Montgomery and the boys have been visiting her sister, Mrs. Devere Dierkes.

Mrs. D. C. Montgomery of Greenville recently won the Ladies State Champion gun shoot.

Mrs. F. M. Acree of Greenville and daughter are visiting in the home of her parents in Texas, during Dr. Acree's trip abroad. The Acrees have rented their home for three months to Mr. and Mrs. J. Q. Stigler, formerly of Greenwood. Mr. Stigler is the jovial and popular salesman of Eli Lilly in this section. Greenville is proud to have Mr. and Mrs. Stigler and is giving them a very warm welcome.

Mrs. O. H. Beck of Greenville is spending several weeks in Spruce Pine, N. C. Dr. O. H. Beck motored to Jackson leaving the children with their grandmother.

Dr. and Mrs. J. R. Baldwin of Greenville motored to Bowling Green, Ky., for a short visit to their daughter.

Dr. K. L. Witte and daughter, Miss Virginia, were among those in the fourth of July parade at Leland. They also rode in the horse show that night, which proved to be most successful.

Dr. R. A. Haggard of Arcola attended the fourth of July celebration at Leland.

The many friends of Dr. J. W. Shackleford, county health officer of Washington county, are

delighted to know that his father has recovered sufficiently from a recent illness to be able to return to his home in Carrollton.

Dr. and Mrs. J. C. Pegues and family of Greenville motored to Chicago where they attended the World's Fair. Dr. Pegues gives glowing accounts of the fair.

Dr. Ray Johnson of Cleveland, spent an enjoyable week end with his brother, Dr. E. T. White and Mrs. White at Greenville.

The following doctors were visitors to Greenville this past month: Dr. C. M. Murray, Ripley; Dr. B. H. Higdon, Sunflower; Dr. W. H. Weeks, Doddsville; Dr. J. D. Simmons, Gunnison; Dr. T. C. Oliver, Leland; Dr. J. P. Wiggins, Cleveland: Dr. J. C. Mancill, Indianola: Dr. W. H. Scudder, Mayersville; Dr. D. W. White, Shelby.

Dr. and Mrs. R. E. Wilson, Greenville, had as their guests Mr. and Mrs. Morris Moore, Oklahoma City, and Miss Marjorie Moore, a student at M. S. C. W.

Miss Dorothy Thompson is spending the summer with her parents, Dr. and Mrs. C. P. Thompson. Miss Thompson is a student at Ole Miss and is majoring in music.

The many friends of Dr. and Mrs. T. B. Lewis, Greenville, regret to learn of the recent illness of their daughter, Mrs. W. R. Blake of Bluefield, W. Va.

Dr. L. C. Davis, Greenville, enjoyed a very successful fishing trip on Eagle Lake this past month.

Mrs. L. C. Davis and children will visit relatives in Meridian the last of July.

Dr. and Mrs. J. B. Hirsch, Greenville, have had as their house guest this past month Edgar Rothschild, Jr., of Brownsville, Tenn. Mrs. J. B. Hirsch, Jerome, Jr. and Joe of Greenville will spend a month at Smoky Mountain, N. C.

Dr. E. W. Eubanks, Greenville, spent two weeks at Camp Knox, Ky. While there Mrs. Eubanks and Miss Mary visited relatives in Columbus.

Dr. John Archer and Mr. George Archer, Sr. of Greenville motored to Nashville, Tenn. June 12 to attend the graduation of George F. Archer, Jr. George graduated in medicine at Vanderbilt University and stood well in his class. Dr. George F. Archer is now in the Hospital of the University of Pennsylvania where he will serve as an interne for two years.

John G. Archer,
County Editor.

Greenville,
July 9, 1934.

WEBSTER COUNTY

There is not much activity with the doctors of the county since the measles and pneumonia season has come and gone.

Dr. E. F. Arnold attended the staff meeting at Houston Hospital on May 31.

Dr. W. H. Curry was the only physician in the county to attend the last meeting of the State Medical Association.

Dr. J. D. Turner was a recent business visitor at Memphis.

E. F. Arnold.

Bellefontaine,
June 9, 1934.

WINSTON COUNTY

Miss Mary Louise Richardson, daughter of Dr. and Mrs. E. L. Richardson, the music teacher in Louisville High School, has just returned from Blue Mountain College where she took a six weeks' course in music.

Dr. W. W. Hickman father of Dr. W. B. Hickman, is spending a few days' vacation in our city.

Mrs. Cooper, government nurse, has given typhoid vaccine to about 1800 in this county. Her work should be appreciated.

Dr. W. W. Parks spent several days in the Delta this last week fishing.

M. L. Montgomery,
County Editor.

Louisville,
July 10, 1934.

YALOBUSHA COUNTY

There is nothing of very much interest to report for the Journal this month. There is very little sickness and the health conditions in this county apparently are very good.

Dr. D. C. French and Dr. George A. Brown from Water Valley attended a meeting of the North Mississippi Medical Society held at Warren Lake near Waterford on June 27. There was a very interesting program, after which members of the society and visitors enjoyed a delightful brunswick stew.

An interesting clinic was held at the Water Valley Hospital June 28 as follows:

(1) Umbilical Hernia; Radical Operation (Mayo technic).

(2) Herniorrhaphy; Recurrent Inguinal Hernia.

(3) Herniotomy; Right Inguinal Hernia (Bassini Operation).

(4) Imperforate Anus.

I hope that we will be able to have more to report for next month.

George A. Brown,
County Editor.

Water Valley,
July 7, 1934.

THE WOMAN'S AUXILIARY TO THE MISSISSIPPI STATE MEDICAL ASSOCIATION

President—Mrs. Henry Boswell, Sanatorium.

President-Elect—Mrs. Leon S. Lippincott, Vicksburg.

Secretary—Mrs. Adna G. Wilde, Jackson.

Treasurer—Mrs. C. C. Hightower, Hattiesburg.

Press and Publicity Chairman—Mrs. Hugh H. Johnston, Vicksburg.

FROM OUR NATIONAL PRESS AND PUBLICITY CHAIRMAN

Attention of the auxiliary women is called to the fact that the Bulletin of the American Medical Association is Available to the Wives of All Fellows of the American Medical Association. Those members of the American Medical Association who are not fellows have the opportunity of subscribing to the Bulletin at the cost of fifty cents a year. It then follows that the auxiliary section of the Bulletin is available to practically all auxiliary members. It is recommended that members make it a point to read this periodical and that county presidents take steps to call the attention of all members to the Bulletin.

Mrs. Robert E. Fitzgerald.

WOMEN'S AUXILIARY TO THE AMERICAN MEDICAL ASSOCIATION

New Officers:

President—Mrs. Robert Tomlinson, Wilmington, Del.

President-Elect—Mrs. Rogers N. Herbert, Nashville, Tenn.

First Vice-President—Mrs. Rollo K. Packard, Chicago, Ill.

Secretary—Mrs. Elmer S. Whitney, Detroit, Mich.

Treasurer—Mrs. Eben J. Carey, Milwaukee, Wis.

NATCHEZ CONVENTIONS Reports—Continued

REPORT OF COUNCILOR OF FIRST DISTRICT

There are nine counties in District 1. There were two auxiliaries but on April 11, these were merged, co-incident with the merger of the Clarksdale and Six Counties and the Delta Medical Societies.

There are 31 members in the district, with 135 eligible doctors' wives.

Attendance at the meetings increasing and co-operation of Medical Societies satisfactory.

Mrs. J. A. Beals,
Councilor.

REPORT OF COUNCILOR OF FOURTH DISTRICT

A district meeting was held at Durant in April. A very enjoyable luncheon was held with the doctors.

The ladies then met and Mrs. Frank L. Van Alstine outlined the aims of the Auxiliary.

A unit for Holmes County, Winona District, was organized, with seven members.

Mrs. E. C. O'Cain,
Councilor.

REPORT OF COUNCILOR OF FIFTH DISTRICT

In this district there are 10 counties, namely: Hinds, Madison, Simpson, Rankin, Yazoo, Claiborne, Issaquena-Sharkey and Warren.

There are actually two auxiliaries, and one component part, Simpson, with a membership of five being a component of the Woman's Auxiliary to the Central Medical Society, which is composed of Hinds, Madison, Simpson, Rankin and Yazoo. Claiborne has no auxiliary.

There are 39 members from Hinds, one from Madison, and five from Yazoo, holding their meetings in Jackson on the second Tuesday of each month, the president being Mrs. Harvey Garrison.

Issaquena, Sharkey and Warren counties having a membership of 28, hold their meetings in Vicksburg, the president being Mrs. H. S. Goodman, Cary.

Mrs. W. H. Watson represents Rankin and is a member at large.

This makes a total membership of 74 from District Five.

I have enlisted Yazoo County, which up to this year has not been interested. Mrs. Gilruth Darrington is chairman.

Mrs. W. H. Watson, member at large, is chairman of Rankin County and hopes to enlist the eligible doctors' wives, two in number from Rankin.

The spirit of co-operation is very fine, and we have an enthusiastic and active membership, with very excellent officers. The Medical Societies have given us all assistance asked for.

Mrs. John B. Howell,
Councilor.

REPORT OF COUNCILOR OF SEVENTH DISTRICT

The organization of the Auxiliary of the South Mississippi Medical Society with 22 members is a step forward for the Seventh District.

The spirit of co-operation is splendid and the cordial relations between the members have already been apparent.

The members of the South Mississippi Medical Society have been encouraging and helpful to our organization.

Mrs. L. L. Polk,
Councilor.

REPORT OF COUNCILOR OF EIGHTH DISTRICT

District Eight has all of its counties organized, with three units, Homochitto Valley, Pike County, and Tri-County.

All are quite active. The membership of the District is 43.

Mrs. N. R. Fairfax,
Councilor.

THE WOMAN'S AUXILIARY TO THE HOMOCHITTO VALLEY MEDICAL SOCIETY

The members of the Woman's Auxiliary to the Homochitto Valley Medical Society held their July meeting at the home of Mrs. J. W. D. Dicks, of Natchez.

The meeting was opened by the president, Mrs. E. E. Benoist. A short business session followed.

The Auxiliary deeply regrets the loss of one of its most active members, Mrs. R. Smith, who with Dr. Smith will be located at Fort Smith, Ark.

The announcement for the October meeting will be made at a later date.

Mrs. Wm. K. Stowers,
Press and Publicity Chairman.

Natchez,
July 13, 1934.

THE WOMAN'S AUXILIARY TO THE SOUTH MISSISSIPPI MEDICAL SOCIETY

The June meeting of the South Mississippi Medical Society was held at the Forrest Hotel in Hattiesburg, on the 14th of June. Mrs. Mabel Mason of Lumberton, the newly elected president, presided. In addition to Mrs. Mason, the officers for the coming year are: First Vice-President, Mrs. L. B. Hudson; Second Vice-President, Mrs. H. L. McKinnon; Secretary, Mrs. S. E. Bethea; Corresponding Secretary, Mrs. F. T. Bowers; Treasurer, Mrs. Grady Cook; Parlimentarian, Mrs. C. C. Hightower; Councilor, Mrs. L. L. Polk.

The following committees will serve: Public Relations, Mrs. H. C. MeLeod, chairman and Mrs. T. E. Ross, Jr.; Membership, Mrs. S. E. Bethea, chairman; Press and Publicity, Mrs. Richard H. Clark, Chairman; Mrs. J. P. Culpepper, Jr. and Mrs. D. B. Blackwelder.

Plans for the year were presented by Mrs. Mason, all of which promise to be both pleasant and profitable.

Mrs. Richard H. Clark,
Chairman, Press and Publicity.

Hattiesburg,
July 10, 1934.

THE WOMAN'S AUXILIARY TO THE WINONA DISTRICT MEDICAL SOCIETY

On the fifth of this month, the Woman's Auxiliary to the Winona District Medical Society met at Grenada. The Grenada Clinic honored both organizations with a lovely lucheon served in the basement of the Masonic Building.

The program of this meeting dealt with the skin. Mrs. Avent, of Grenada, gave an interesting paper on skin cancer; Mrs. S. S. Caruthers of Duck Hill discussed briefly "Facts and Fallacies of Cosmetics," a recent article in Hygeia.

Mrs. Whitaker, of Sardis, was a guest and added to the discussion with excellent comments. Mrs. S. B. Caruthers, of Grenada, who has been an associate member since December, came into regular standing.

We are happy to welcome the new Holmes County unit organized in April by Mrs. Van Alstine, State president last year. However, we were disappointed not to have any representative from that unit.

The next meeting will be with Mrs. E. C. Cain, of Winona, August 1.

Mrs. S. S. Caruthers,
Press and Publicity Chairman.

Duck Hill,
July 7, 1934.

VICKSBURG NOTES

Dr. and Mrs. R. A. Street, Jr., have returned from Chicago. They are now located in an apartment at the Sanitarium where Dr. Street is House Surgeon.

Dr. and Mrs. B. B. Martin are welcoming a new granddaughter who has been given the name of Ethel Sue for the two grandmothers.

Mrs. Preston Herring has had as her guest her father, Dr. J. C. Greenoe of Trenton, Missouri.

Mrs. George Street enjoyed a vacation in Chicago. Her daughters, Polly and Lois are spending their vacation in a camp in Tennessee.

Mrs. I. C. Knox's sister, Mrs. Walter Bailey, of Faunsdale, Ala., has been here on a visit.

Misses Cassie and Maurine Smith, daughters of Dr. and Mrs. F. M. Smith, have returned from a delightful motor trip to Washington, D. C.

Mrs. W. H. Parsons and daughters are enjoying a vacation on the Mississippi coast.

Waring Black, son of Dr. and Mrs. Guy Jarrat, celebrated his second birthday by entertaining his young friends with a party.

Edley Jones, son of Dr. and Mrs. Edley Jones entertained his friends on his sixth birthday.

Mrs. Laurence J. Clark,
Press and Publicity Chairman.

Vicksburg,
July 10, 1934.

Miss Lois Haralson, daughter of Dr. H. H. Haralson, is spending a vacation in Biloxi.

Dr. and Mrs. M. J. Few are enjoying a three weeks' vacation, going by auto, from Rolling Fork, North through Canada and will return by the way of Chicago.

Mrs. W. C. Pool.

Cary,
July 10, 1934.

BOOK REVIEWS

What Shall I Eat? By Edith M. Barber, B. S., M. S. New York. The Macmillan Co., 1933. pp. 106.

What first attracts you to this book are the whimsical sketches of Helen Hokinson. They are drawn in the style that has endeared her to many a New Yorker reader. Coy captions accompany each illustration, and once you have seen the pictures, you are tempted to read the entire text. The spirit of the book is just as gay as any of Miss Hokinson's prim, cholecysticish club-women. As she dwadles through a concentrated dietary discussion the author, Edith M. Barber, niftily and painlessly unfolds an adequate outline of the essentials of nutrition. There is little omitted that the layman should know about food, and with the possible exception of Lulu Hunt Peters' contribution on diet and calories, this is the best book concerning food that has been written for lay consumption. Illustrative of the delightful manner of presentation is the following introductory paragraph: "To be happy nowadays is a hard job with all your friends and acquaintances off on a diet tangent,—and don't they drum it into your ears, particularly at meals? You feel that you really must take up a diet, if only to protect yourself conversationally. The object of this book is to give a few simple and really more or less interesting facts about this popular subject, food. Digest them (a legitimate metaphor, isn't it?), and you will be able to outshout your friends on the diet question and at the same time, enjoy a good meal." She then gives seven rules of nutrition which are as follows:

First—A quart of milk for each child, and at least a cup for each adult. During pregnancy and lactation a quart is needed. Part of the milk may be used in cooking. It is a good plan to include at least one milk dish a day for children and grownups alike. Cheese may take the place of some of the milk.

Second—Plenty of vegetables and fruit. At least one raw vegetable such as cabbage, lettuce, or carrots, and besides potatoes, one or two other vegetables, cooked or canned. Fresh, dried or canned fruit among which citrus fruits and tomatoes should be included several times a week.

Third—An egg or at least an egg yolk for each child every day, and at least several times a week for the adult.

Fourth—Meat, fish, eggs or cheese.

Fifth—A supply of vitamin D from sunlight, real or artificial, from cod liver oil, or a concentrate of vitamin D, or from a food "re-enforced" with vitamin D.

Sixth—Enough butter and other fats, sugars and sweets, bread and cereals (some of them whole grain), to add the "calories" necessary. In low cost diets the whole grain cereals should be used liberally.

Seventh—Plenty of water, six to eight glasses a day.

Maurice Sullivan, M. D.

Modern Drug Encyclopedia and Therapeutic Guide: By Jacob Gutman, M. D., Phar. D., F. A. C. P. New York. Paul B. Hoeber Inc., 1934. Price $7.50

The scope of this work is indicated by the statement on the title page that it is "A presentation of 8160 non-pharmacopeal, medicinal preparations, comprising 1878 drugs and chemicals, 535 biologicals, 860 endocrines, 1563 ampule medicamen's, 209 medical foods, 129 mineral waters, 2344 individual and group allergens and 642 miscellaneous products." Necessarily such presentation of so many preparations must be extremely sketchy and brief. Many products not accepted by the Council on Pharmacy and Chemistry or the Committee on Foods of the American Medical Association are included.

The physician, who feels it necessary to go outside of the Pharmacopea, National Formulary, and New and Non-official Remedies in search for effective remedies for his patients, will find the information desired in this work. One commendable feature of this book is the inclusion of a chapter consisting entirely of the Bibliography of many of the preparations.

J. H. Halsey, M. D.

Birth Control In Practice: By Marie E. Kopp, Ph. D. New York. Robert M. McBride Co., 1934. pp. 290.

This book is a review of the findings in 10,000 cases handled by the Birth Control Clinic Research Bureau of New York during the four and one half year period from January 1925 to July 1929. The material is analysed from every possible angle, with tables and charts setting forth the details. In the majority of instances controceptive advice was given because of the presence of general medical conditions or local gynecological findings, alone or combined, which made pregnancy inadvisable. In some instances dysgenic or anti-social conditions were of major importance.

It was found that the regular use of the occlusive diaphragm combined with the employment of a contraceptive jelly, gave the highest percentage of success; viz. 93.3 per cent. Individual fitting for each patient, together with detailed instructions, are essential to success.

In general, it can be stated that this is a work which will be most useful to those interested in this subject. As noted above, it is not possible in a review to consider the various subjects so exhaustively presented in this stury.

E. L. King, M. D.

Coccidia and Coccidiosis of Domesticated, Game and Laboratory Animals and of Man: By Elery R. Becker, D. Sc. Ames, Ia., Collegiate Press, 1934. pp. 147.

This monograph brings together descriptions of the different species of Coccidia found in various hosts, man, domesticated, game and laboratory animals. It will be of interest to the biologist, the pathologist, the practitioner and the educated animal breeder.

The material is presented in a very practical and understandable way. "Host-parasite relationships" are emphasized or indicated throughout. As one reads the monograph, he is impressed more and more with the high degree of host specificity of these parasites.

The text is well written, easy to read and the illustrations, most of which are from original sources, are good.

C. C. Bass, M. D.

Medicine: A Voyage of Discovery: By Josef Loebel, M. D. New York, Farrar and Rhinehart, 1934. pp. 334.

This is a delightful book devoted to the study of medicine and the auxiliary sciences. In this "voyage of discovery" the author gives a few but important historical facts concerning each of the sciences, as Biology, Anatomy, Physiology, Endocrinology, etc. and then in a masterly way he shows the important part each plays in the structure called Medicine. The intimate interrelationship is at once obvious. The thought is inescapable that scientific medicine through the sum of all these important sciences, is yet a whole greater than its parts. The importance of treatment and the influence of constitution upon humans is simply yet scientifically presented. Many interesting ancedotes are found throughout the book. The concepts of Modern medicine and the future of this most important and yet comparatively young science are most interestingly presented. It is popularly written and should appeal to the intelligent layman as well as to the physician.

I. L. Robbins, M. D.

Diet and Personality: Fitting Food to Type and Environment: By L. Jean Bogert, Ph. D. New York, The Macmillan Co., 1934. pp. 223.

Here we have a popularly written book depciting the various human constitutional types with their respective reactions to diet and environment. The author attempts to correct by advice the dietary and environmental requirements of these individuals. Indigestion, nervous strain, constipation and food fads along with other interesting matters are treated in a sound and simple, yet scientifically correct manner. It is readable.

I. L. Robbins, M. D.

International Clinics: March, 1934. Philadelphia. J. B. Lippincott Co., 1934. pp. 320.

This is a splendid volume, maintaining the superior quality of its predecessors. The contents cover a large number of important subjects in medicine and surgery. An excellent symposium on Lead poisoning and two articles devoted to Progress in Medicine and Abdominal Surgery constitute a trio of charming, critical and scholarly essays. The reviewer sees no necessity for discussing the individual articles. He feels that one should routinely review this quarterly. The articles are comprehensive and yet concise. A clinic of Dr. Urban Maes is a features of the present volume. A good index is appended.

I. L. Robbins, M. D.

Injuries and Sport: By C. B. Heald. C. B. E., M. A., M. D. (Cantab.), M. R. C. P (Land), New York, Oxford Univ. Press, 1931. pp. 543.

The reviewer finds this text to be an excellent general guide for the average practitioner of medicine, especially those interested in sports who frequently have occasion to treat injuries therefrom.

The general arrangement with the diagrams inside the front cover and on the front sheet is very helpful and serves as an index for numbers are placed on the part of the body involved noting where subject matter may be found within the pages.

The printing is easily legible on excellent excellent glossy paper.

The book contains 380 beautiful illustrations which in themselves are very instructive, minimizing reading on the subject and at the same time shows how the particular act of the accident is responsible for the injury. Each accidental surgical condition is very briefly, concisely and thoroughly described covering all phases of pathology, treatments, prognosis and etc.

The reviewer gladly recommends this book to the medical profession as a valuable text in any medical library, for quick references and guide.

Jos. C. Menendez, M. D.

Pathogenic Microganisms: By William H. Park and Anna Wessels Williams, Lea and Febiger, Phila. 1933. pp. 867, 216 illustrations. Price, $7.00.

Every reviewer notes, when he reviews a book that has passed through many editions, that the book has stood "the test of time" and that it must be a good book or it would not have gone through so many editions and so on. Critical comment will not be made, therefore, because of the fact that this is the 10th edition of the book by Park and Williams and because the volume has apparently fulfilled all requirements that a book should, to be successful.

This edition, as previous editions, has been extensively revised and again to use a common expression it has been kept up to date, as exemplified in this edition by changes in the chapters on the pyogenic cocci and the pneumococci; complete revision of the chapter on microscopic technic; revision of the chapter on pneumococci dealing with the types and also the chapters on the colon-typhoid group; a discussion of B. C. G. vaccination; elaboration and completeness of the section on compedement fixation; the addition of more material on bacterial metabolism and preparation of diptheria toxin; a revision of the section on spirochetes and the filterable viruses, as well as those divisions on milk, water and shellfish and the chapter on hypersensitiveness, to quote from the preface.

There is one comment the reviewer would like to make. This book is essentially one for the bacteriologist and the student of bacteriology but it should be on the shelf of the internist as it contains a tremendous amount of material which appertains to, and is of importance in, the practice of medicine. It is a truly splendid reference book for the man who is practicing medicine and who is not primarily a laboratorian.

J. H. Musser, M. D.

PUBLICATIONS RECEIVED

Paul B. Hoeber, Inc., New York: Annals of Roentgenology, edited by James T. Case, M. D., Volume 16, Foreign Body in Air and Food Passages, by Chevalier Jackson, M. D. and Chevalier L. Jackson, M. D.

Williams and Wilkins Company, Baltimore: The Medicolegal Necropsy, edited by Thomas B. Magath.

Charles C. Thomas, Springfield, Ill., and Baltimore: Clinical Miscellany, The Mary Imogene Passet Hospital, Volume 1, 1934.

J. B. Lippincott Company, Philadelphia: That Heart of Yours, by S. Calvin Smith, M. D., Sc. D.

William Wood and Company, Baltimore: Manual of the Diseases of the Eye, by Charles H. May, M. D.

MacMillan Company, New York: The Dangerous Age in Men, by Chester Tilton Stone, M. D.

G. Doin and Cie, Paris, France: L'Intoxication par les Somniferes, by Charles Flandin, Francois Joly, and Jean Bernard.

P. Blakiston's Son and Company, Inc., Philadelphia: A Compend of Diseases of the Skin, by Jay Frank Schamberg, A. B., M. D., and Carroll S. Wright, B. S., M. D.

W. B. Saunders Company, Philadelphia: A Primer for Diabetic Patients, by Russell M. Wilder, M. D.